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NEWS 5	Apr 19	US Patent Applications available in IFICDB, IFIPAT, and IFIUDB
NEWS 6	Apr 22	Records from IP.com available in CAPLUS, HCAPLUS, and ZCAPLUS
NEWS 7	Apr 22	BIOSIS Gene Names now available in TOXCENTER
NEWS 8	Apr 22	Federal Research in Progress (FEDRIP) now available
NEWS 9	Jun 03	New e-mail delivery for search results now available
NEWS 10	Jun 10	MEDLINE Reload
NEWS 11	Jun 10	PCTFULL has been reloaded
NEWS 12	Jul 02	FOREGE no longer contains STANDARDS file segment
NEWS 13	Jul 22	USAN to be reloaded July 28, 2002; saved answer sets no longer valid
NEWS 14	Jul 29	Enhanced polymer searching in REGISTRY
NEWS 15	Jul 30	NETFIRST to be removed from STN
NEWS 16	Aug 08	CANCERLIT reload
NEWS 17	Aug 08	PHARMAMarketLetter(PHARMAML) - new on STN
NEWS 18	Aug 08	NTIS has been reloaded and enhanced
NEWS 19	Aug 19	Aquatic Toxicity Information Retrieval (AQUIRE) now available on STN
NEWS 20	Aug 19	IFIPAT, IFICDB, and IFIUDB have been reloaded
NEWS 21	Aug 19	The MEDLINE file segment of TOXCENTER has been reloaded
NEWS 22	Aug 26	Sequence searching in REGISTRY enhanced
NEWS 23	Sep 03	JAPIO has been reloaded and enhanced
NEWS 24	Sep 16	Experimental properties added to the REGISTRY file
NEWS 25	Sep 16	CA Section Thesaurus available in CAPLUS and CA
NEWS 26	Oct 01	CASREACT Enriched with Reactions from 1907 to 1985
NEWS 27	Oct 21	EVENTLINE has been reloaded
NEWS 28	Oct 24	BEILSTEIN adds new search fields
NEWS 29	Oct 24	Nutraceuticals International (NUTRACEUT) now available on STN
NEWS 30	Oct 25	MEDLINE SDI run of October 8, 2002
NEWS 31	Nov 18	DKILIT has been renamed APOLLIT
NEWS 32	Nov 25	More calculated properties added to REGISTRY
NEWS 33	Dec 02	TIBKAT will be removed from STN
NEWS 34	Dec 04	CSA files on STN
NEWS 35	Dec 17	PCTFULL now covers WP/PCT Applications from 1978 to date
NEWS 36	Dec 17	TOXCENTER enhanced with additional content
NEWS 37	Dec 17	Adis Clinical Trials Insight now available on STN
NEWS 38	Dec 30	ISMEC no longer available

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NEWS 39  Jan 13  Indexing added to some pre-1967 records in CA/CAPLUS
NEWS 40  Jan 21  NUTRACEUT offering one free connect hour in February 2003
NEWS 41  Jan 21  PHARMAML offering one free connect hour in February 2003
NEWS 42  Jan 29  Simultaneous left and right truncation added to COMPENDEX,
                 ENERGY, INSPEC

NEWS EXPRESS  January 6 CURRENT WINDOWS VERSION IS V6.01a,
              CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP),
              AND CURRENT DISCOVER FILE IS DATED 01 OCTOBER 2002
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=> s plant and transform? and uridyl(w)transferase
L1            0 PLANT AND TRANSFORM? AND URIDYL(W) TRANSFERASE

=> s plant and transform? and galactokinase
L2            9 PLANT AND TRANSFORM? AND GALACTOKINASE

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PROCESSING COMPLETED FOR L2
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L3 ANSWER 1 OF 7 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 2003:46026 BIOSIS
DN PREV200300046026
TI Genetic manipulation of the pathogenic yeast Candida parapsilosis.
AU Nosek, Jozef (1); Adamikova, Lubica; Zemanova, Julia; Tomaska, Lubomir; Zufferey, Rachel; Ben Mamoun, Choukri
CS (1) Department of Biochemistry, Faculty of Natural Sciences, Comenius University, Mlynska dolina CH-1, 84215, Bratislava, Slovakia: nosek@fns.uniba.sk Slovakia
SO Current Genetics, (October 2002, 2002) Vol. 42, No. 1, pp. 27-35. print.
ISSN: 0172-8083.
DT Article
LA English

L3 ANSWER 2 OF 7 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1
AN 2002:138680 BIOSIS
DN PREV200200138680
TI Enhanced and targeted expression of fungal phytase in Saccharomyces cerevisiae.
AU Lim, Young-Yi; Park, Eun-Ha; Kim, Ji-Hye; Park, Seung-Moon; Jang, Hyo-Sang; Park, Youn-Je; Yoon, Sewang; Yang, Moon-Sik; Kim, Dae-Hyuk (1)
CS (1) Institute for Molecular Biology and Genetics, Basic Science Research Institute, Chonbuk National University, Dukjindong 664-14, Chonju, Chonbuk, 561-756: dhkim@moak.chonbuk.ac.kr South Korea
SO Journal of Microbiology and Biotechnology, (December, 2001) Vol. 11, No. 6, pp. 915-921. print.
ISSN: 1017-7825.
DT Article
LA English

L3 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2003 ACS
AN 2000:133844 CAPLUS
DN 132:178178
TI Galactose utilization as a positive selection marker in the ***transformation*** of ***plant*** cells
IN Jorsboe, Morten; Brunstedt, Janne; Jorgensen, Kirsten
PA Danisco A/S, Den.
SO PCT Int. Appl., 86 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000009705	A2	20000224	WO 1999-IB1465	19990811

WO 2000009705 A3 20000615
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
CA 2339346 AA 20000224 CA 1999-2339346 19990811
AU 9951893 A1 20000306 AU 1999-51893 19990811
GB 2343183 A1 20000503 GB 1999-18988 19990811
GB 2343183 B2 20010117
EP 1105500 A2 20010613 EP 1999-936927 19990811
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO
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WO 1999-IB1465 W 19990811

L3 ANSWER 4 OF 7 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 2000:113541 BIOSIS
DN PREV200000113541
TI Multiple copies of MRG19 suppress transcription of the GAL1 promoter in a GAL80-dependent manner in Saccharomyces cerevisiae.
AU Kabir, M. A.; Khanday, F. A.; Mehta, D. V.; Bhat, P. J. (1)
CS (1) Laboratory of Molecular Genetics, Biotechnology Center, Indian Institute of Technology, Powai Mumbai, 400 076 India
SO Molecular and General Genetics, (Jan., 2000) Vol. 262, No. 6, pp. 1113-1122.
ISSN: 0026-8925.
DT Article
LA English
SL English

L3 ANSWER 5 OF 7 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 2000:266074 BIOSIS
DN PREV200000266074
TI Overexpression of human UDP-glucose pyrophosphorylase rescues galactose-1-phosphate uridyltransferase-deficient yeast.
AU Lai, Kent; Elsas, Louis J. (1)
CS (1) Division of Medical Genetics, Department of Pediatrics, Emory University School of Medicine, 2040 Ridgewood Drive, Atlanta, GA, 30322 USA
SO Biochemical and Biophysical Research Communications, (May 10, 2000) Vol. 271, No. 2, pp. 392-400. print..
ISSN: 0006-291X.
DT Article
LA English
SL English

L3 ANSWER 6 OF 7 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1998:364564 BIOSIS
DN PREV199800364564
TI Expression of the extracellular domain of the human immunodeficiency virus type 1 envelope protein and its fusion with beta-galactosidase in Saccharomyces cerevisiae.

AU Liu, Wei-Feng (1); Gao, Dong; Wang, Zu-Nong
CS (1) Coll. Life Sci., Shandong Univ., 250100 Jinan China
SO Clinical and Diagnostic Laboratory Immunology, (July, 1998) Vol. 5, No. 4, pp. 592-594.
ISSN: 1071-412X.
DT Article
LA English

L3 ANSWER 7 OF 7 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1994:75397 BIOSIS
DN PREV199497088397
TI Fermentation of lactose by yeast cells secreting recombinant fungal lactase.
AU Ramakrishnan, Sundaram (1); Hartley, Brian S.
CS (1) Dep. Neurosci. Biol. Cell Biol., UMDNJ-Robert Wood Johnson Med. Sch., 675 Hoes Lane, Piscataway, NJ 08854 USA
SO Applied and Environmental Microbiology, (1993) Vol. 59, No. 12, pp. 4230-4235.
ISSN: 0099-2240.
DT Article
LA English

=> s galactose(w)utilization and select?(w)marker and plant
L4 2 GALACTOSE(W) UTILIZATION AND SELECT?(W) MARKER AND PLANT

=> d l4 1-2

L4 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2003 ACS
AN 2000:133844 CAPLUS
DN 132:178178
TI ***Galactose*** ***utilization*** as a positive ***selection*** ***marker*** in the transformation of ***plant*** cells
IN Jorsboe, Morten; Brunstedt, Janne; Jorgensen, Kirsten
PA Danisco A/S, Den.
SO PCT Int. Appl., 86 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000009705	A2	20000224	WO 1999-IB1465	19990811
	WO 2000009705	A3	20000615		
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	RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
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	AU 9951893	A1	20000306	AU 1999-51893	19990811
	GB 2343183	A1	20000503	GB 1999-18988	19990811
	GB 2343183	B2	20010117		

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     EP 1105500         A2   20010613       EP 1999-936927   19990811
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO
PRAI GB 1998-17465      A    19980811
     WO 1999-IB1465     W    19990811

L4   ANSWER 2 OF 2  CAPLUS  COPYRIGHT 2003 ACS
AN   1993:249285  CAPLUS
DN   118:249285
TI   Selection of genetically transformed cells by their ability to utilize
     modified purines as cytokinin sources
IN   Okkels, Finn T.; Whenham, Robert James
PA   Danisco A/S, Den.
SO   Eur. Pat. Appl., 59 pp.
     CODEN: EPXXDW
DT   Patent
LA   English
FAN.CNT 3
     PATENT NO.         KIND  DATE           APPLICATION NO.  DATE
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PI   EP 530129          A1    19930303       EP 1992-610064   19920827
         R:  PT
     WO 9305163         A1    19930318       WO 1992-DK252    19920827
         W:  AU, CA, CS, HU, JP, PL, RU, US
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     AU 9225567         A1    19930405       AU 1992-25567    19920827
     AU 664200          B2    19951109
     EP 601092          A1    19940615       EP 1992-919292   19920827
     EP 601092          B1    19990707
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     JP 06511146        T2    19941215       JP 1992-504840   19920827
     HU 69606           A2    19950928       HU 1994-570      19920827
     EP 896063          A2    19990210       EP 1998-121031   19920827
     EP 896063          A3    20000209
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     RU 2126834         C1    19990227       RU 1994-16194    19920827
     CZ 284828          B6    19990317       CZ 1994-444      19920827
     AT 181963          E     19990715       AT 1992-919292   19920827
     ES 2135415         T3    19991101       ES 1992-919292   19920827
     SK 280639          B6    20000516       SK 1994-222      19920827
PRAI DK 1991-1522       A     19910828
     EP 1992-919292     A3    19920827
     WO 1992-DK252      A     19920827
OS   MARPAT 118:249285


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NEWS 15 Jul 30 NETFIRST to be removed from STN
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NEWS 24 Sep 16 Experimental properties added to the REGISTRY file
NEWS 25 Sep 16 CA Section Thesaurus available in CAPLUS and CA
NEWS 26 Oct 01 CASREACT Enriched with Reactions from 1907 to 1985
NEWS 27 Oct 21 EVENTLINE has been reloaded
NEWS 28 Oct 24 BEILSTEIN adds new search fields
NEWS 29 Oct 24 Nutraceuticals International (NUTRACEUT) now available on STN
NEWS 30 Oct 25 MEDLINE SDI run of October 8, 2002
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NEWS 33 Dec 02 TIBKAT will be removed from STN
NEWS 34 Dec 04 CSA files on STN
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NEWS 37 Dec 17 Adis Clinical Trials Insight now available on STN
NEWS 38 Dec 30 ISMEC no longer available
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NEWS 40 Jan 21 NUTRACEUT offering one free connect hour in February 2003
NEWS 41 Jan 21 PHARMAML offering one free connect hour in February 2003
NEWS 42 Jan 29 Simultaneous left and right truncation added to COMPENDEX, ENERGY, INSPEC

NEWS EXPRESS January 6 CURRENT WINDOWS VERSION IS V6.01a, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP), AND CURRENT DISCOVER FILE IS DATED 01 OCTOBER 2002
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NEWS INTER General Internet Information
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NEWS PHONE Direct Dial and Telecommunication Network Access to STN
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FILE 'BIOSIS' ENTERED AT 13:54:20 ON 05 FEB 2003
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=> s galactose(w)toxicity and positive(w)selection
L1            1 GALACTOSE(W) TOXICITY AND POSITIVE(W) SELECTION

=> d l1

L1   ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2003 ACS
AN   2000:133844  CAPLUS
DN   132:178178
TI   Galactose utilization as a   ***positive***     ***selection***   marker
     in the transformation of plant cells
IN   Jorsboe, Morten; Brunstedt, Janne; Jorgensen, Kirsten
PA   Danisco A/S, Den.
SO   PCT Int. Appl., 86 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 1
     PATENT NO.        KIND  DATE           APPLICATION NO.  DATE
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     WO 2000009705     A3    20000615
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PRAI GB 1998-17465     A     19980811
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=> s galactose and toxicity and positive and selection
L2            6 GALACTOSE AND TOXICITY AND POSITIVE AND SELECTION

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DN   132:178178
TI     ***Galactose***  utilization as a  ***positive***     ***selection***
     marker in the transformation of plant cells
IN   Jorsboe, Morten; Brunstedt, Janne; Jorgensen, Kirsten
PA   Danisco A/S, Den.
SO   PCT Int. Appl., 86 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 1
     PATENT NO.        KIND  DATE           APPLICATION NO.  DATE
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     EP 1105500         A2   20010613       EP 1999-936927   19990811
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO
PRAI GB 1998-17465      A    19980811
     WO 1999-IB1465     W    19990811

L3   ANSWER 2 OF 3  CAPLUS  COPYRIGHT 2003 ACS
AN   1999:761571  CAPLUS
DN   132:939
TI     ***Positive***     ***selection***
IN   Bojsen, Kirsten; Donaldson, Iain; Haldrup, Anna; Joersboe, Morten;
     Kreiberg, Jette D.; Nielsen, John; Okkels, Finn T.; Petersen, Steen G.;
     Whenham, Robert J.
PA   Novartis AG, Switz.
SO   U.S., 44 pp., Cont.-in-part of U.S. 5,767,378.
```

CODEN: USXXAM
DT Patent
LA English
FAN.CNT 3

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5994629	A	19991130	US 1995-527474	19950913
	AU 9225567	A1	19930405	AU 1992-25567	19920827
	AU 664200	B2	19951109		
	EP 601092	A1	19940615	EP 1992-919292	19920827
	EP 601092	B1	19990707		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	JP 06511146	T2	19941215	JP 1992-504840	19920827
	EP 896063	A2	19990210	EP 1998-121031	19920827
	EP 896063	A3	20000209		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	RU 2126834	C1	19990227	RU 1994-16194	19920827
	SK 280639	B6	20000516	SK 1994-222	19920827
	US 5767378	A	19980616	US 1995-505302	19951003
PRAI	DK 1991-1522	A	19910828		
	GB 1993-4200	A	19930302		
	US 1995-378996	B2	19950127		
	US 1995-505302	A2	19951003		
	EP 1992-919292	A3	19920827		
	WO 1992-DK252	A	19920827		
	WO 1994-EP575	W	19940228		

OS MARPAT 132:939
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 3 OF 3 AGRICOLA DUPLICATE 1
AN 95:57372 AGRICOLA
DN IND20479585
TI Isolation and characterization of pokeweed antiviral protein mutations in Saccharomyces cerevisiae: identification of residues important for ***toxicity*** .
AU Hur, Y.; Hwang, D.J.; Zoubenko, O.; Coetzer, C.; Uckun, F.M.; Tumer, N.E.
CS Chungnam National University, Daejeon, Korea.
AV DNAL (500 N21P)
SO Proceedings of the National Academy of Sciences of the United States of America, Aug 29, 1995. Vol. 92, No. 18. p. 8448-8452
Publisher: Washington, D.C. : National Academy of Sciences,
CODEN: PNASA6; ISSN: 0027-8424
NTE Includes references
CY District of Columbia; United States
DT Article; Conference
FS U.S. Imprints not USDA, Experiment or Extension
LA English

=> d l3 2 ab

L3 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2003 ACS
AB A method of selecting genetically transformed cells from a population of cells comprising introducing a desired nucleotide sequence and a co-introduced nucleotide sequence into the genome of a cell whereby the desired nucleotide sequence or the co-introduced nucleotide sequence

induces a ***pos*** . effect by giving the transformed cells a competitive advantage when the population of cells are supplied with an inactive compd. thereby allowing the transformed cells to be identified and selected from the non-transformed cells by means defined as ***pos*** . ***selection*** ; as well as cells transformed according to the method and plants derived therefrom. The invention further relates to novel glucuronide compds. including cytokinin glucuronide compds. for use in the method.

=>

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=> LOG Y

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CA SUBSCRIBER PRICE	-0.65	-0.65

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NEWS	3	Apr 09	BEILSTEIN: Reload and Implementation of a New Subject Area
NEWS	4	Apr 09	ZDB will be removed from STN
NEWS	5	Apr 19	US Patent Applications available in IFICDB, IFIPAT, and IFIUDB
NEWS	6	Apr 22	Records from IP.com available in CAPLUS, HCAPLUS, and ZCAPLUS
NEWS	7	Apr 22	BIOSIS Gene Names now available in TOXCENTER
NEWS	8	Apr 22	Federal Research in Progress (FEDRIP) now available

NEWS 9 Jun 03 New e-mail delivery for search results now available
NEWS 10 Jun 10 MEDLINE Reload
NEWS 11 Jun 10 PCTFULL has been reloaded
NEWS 12 Jul 02 FOREGE no longer contains STANDARDS file segment
NEWS 13 Jul 22 USAN to be reloaded July 28, 2002;
saved answer sets no longer valid
NEWS 14 Jul 29 Enhanced polymer searching in REGISTRY
NEWS 15 Jul 30 NETFIRST to be removed from STN
NEWS 16 Aug 08 CANCERLIT reload
NEWS 17 Aug 08 PHARMAMarketLetter(PHARMAML) - new on STN
NEWS 18 Aug 08 NTIS has been reloaded and enhanced
NEWS 19 Aug 19 Aquatic Toxicity Information Retrieval (AQUIRE)
now available on STN
NEWS 20 Aug 19 IFIPAT, IFICDB, and IFIUDB have been reloaded
NEWS 21 Aug 19 The MEDLINE file segment of TOXCENTER has been reloaded
NEWS 22 Aug 26 Sequence searching in REGISTRY enhanced
NEWS 23 Sep 03 JAPIO has been reloaded and enhanced
NEWS 24 Sep 16 Experimental properties added to the REGISTRY file
NEWS 25 Sep 16 CA Section Thesaurus available in CAPLUS and CA
NEWS 26 Oct 01 CASREACT Enriched with Reactions from 1907 to 1985
NEWS 27 Oct 21 EVENTLINE has been reloaded
NEWS 28 Oct 24 BEILSTEIN adds new search fields
NEWS 29 Oct 24 Nutraceuticals International (NUTRACEUT) now available on STN
NEWS 30 Oct 25 MEDLINE SDI run of October 8, 2002
NEWS 31 Nov 18 DKILIT has been renamed APOLLIT
NEWS 32 Nov 25 More calculated properties added to REGISTRY
NEWS 33 Dec 02 TIBKAT will be removed from STN
NEWS 34 Dec 04 CSA files on STN
NEWS 35 Dec 17 PCTFULL now covers WP/PCT Applications from 1978 to date
NEWS 36 Dec 17 TOXCENTER enhanced with additional content
NEWS 37 Dec 17 Adis Clinical Trials Insight now available on STN
NEWS 38 Dec 30 ISMEC no longer available
NEWS 39 Jan 13 Indexing added to some pre-1967 records in CA/CAPLUS
NEWS 40 Jan 21 NUTRACEUT offering one free connect hour in February 2003
NEWS 41 Jan 21 PHARMAML offering one free connect hour in February 2003
NEWS 42 Jan 29 Simultaneous left and right truncation added to COMPENDEX,
ENERGY, INSPEC

NEWS EXPRESS January 6 CURRENT WINDOWS VERSION IS V6.01a,
CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP),
AND CURRENT DISCOVER FILE IS DATED 01 OCTOBER 2002
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FILE 'BIOSIS' ENTERED AT 14:28:34 ON 05 FEB 2003
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=> s galactokinase and selection and cells
L1          64 GALACTOKINASE AND SELECTION AND CELLS

=> duplicate remove l1
DUPLICATE PREFERENCE IS 'AGRICOLA, BIOSIS, EMBASE, CAPLUS'
KEEP DUPLICATES FROM MORE THAN ONE FILE?  Y/(N):n
PROCESSING COMPLETED FOR L1
L2          28 DUPLICATE REMOVE L1 (36 DUPLICATES REMOVED)

=> d l2 1-10 ti

L2   ANSWER 1 OF 28  BIOSIS  COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE
     1
TI   Genetic manipulation of the pathogenic yeast Candida parapsilosis.

L2   ANSWER 2 OF 28  BIOSIS  COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE
     2
TI   Diversity of Streptococcus salivarius ptsH mutants that can be isolated in
     the presence of 2-deoxyglucose and galactose and characterization of two
     mutants synthesizing reduced levels of HPr, a phosphocarrier of the
     phosphoenolpyruvate:sugar phosphotransferase system.

L2   ANSWER 3 OF 28  CAPLUS  COPYRIGHT 2003 ACS
TI   Galactose utilization as a positive   ***selection***   marker in the
     transformation of plant   ***cells***

L2   ANSWER 4 OF 28  BIOSIS  COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE
     3
TI   Overexpression of human UDP-glucose pyrophosphorylase rescues
     galactose-1-phosphate uridyltransferase-deficient yeast.

L2   ANSWER 5 OF 28  BIOSIS  COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE
     4
```

TI Phenotypic consequences resulting from a methionine-to-valine substitution at position 48 in the HPr protein of Streptococcus salivarius.

L2 ANSWER 6 OF 28 CAPLUS COPYRIGHT 2003 ACS
TI Chinese hamster ***cells*** containing shuttle vectors for detecting chemical mutagens

L2 ANSWER 7 OF 28 AGRICOLA DUPLICATE 5
TI Direct ***selection*** of ***galactokinase*** -negative mutants of Candida albicans using 2-deoxy-galactose.

L2 ANSWER 8 OF 28 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 6
TI ***SELECTION*** AND ANALYSIS OF GALACTOSE METABOLIC PATHWAY VARIANTS OF A MOUSE LIVER CELL LINE.

L2 ANSWER 9 OF 28 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 7
TI REGULATED EXPRESSION AT HIGH COPY NUMBER ALLOWS PRODUCTIONS OF A GROWTH INHIBITORY ONCOGENE PRODUCTS IN DROSOPHILA SCHNEIDER ***CELLS*** .

L2 ANSWER 10 OF 28 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 8
TI INTRODUCTION AND CONSTITUTIVE EXPRESSION OF GENE PRODUCTS IN CULTURED DROSOPHILA ***CELLS*** USING HYGROMYCIN B ***SELECTION*** .

=> d l2 3

L2 ANSWER 3 OF 28 CAPLUS COPYRIGHT 2003 ACS
AN 2000:133844 CAPLUS
DN 132:178178
TI Galactose utilization as a positive ***selection*** marker in the transformation of plant ***cells***
IN Jorsboe, Morten; Brunstedt, Janne; Jorgensen, Kirsten
PA Danisco A/S, Den.
SO PCT Int. Appl., 86 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000009705	A2	20000224	WO 1999-IB1465	19990811
	WO 2000009705	A3	20000615		
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2339346	AA	20000224	CA 1999-2339346	19990811
	AU 9951893	A1	20000306	AU 1999-51893	19990811
	GB 2343183	A1	20000503	GB 1999-18988	19990811

GB 2343183 B2 20010117
EP 1105500 A2 20010613 EP 1999-936927 19990811
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO
PRAI GB 1998-17465 A 19980811
WO 1999-IB1465 W 19990811

=> d l2 4

L2 ANSWER 4 OF 28 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 3
AN 2000:266074 BIOSIS
DN PREV200000266074
TI Overexpression of human UDP-glucose pyrophosphorylase rescues galactose-1-phosphate uridyltransferase-deficient yeast.
AU Lai, Kent; Elsas, Louis J. (1)
CS (1) Division of Medical Genetics, Department of Pediatrics, Emory University School of Medicine, 2040 Ridgewood Drive, Atlanta, GA, 30322 USA
SO Biochemical and Biophysical Research Communications, (May 10, 2000) Vol. 271, No. 2, pp. 392-400. print..
ISSN: 0006-291X.
DT Article
LA English
SL English

=> d l2 1-4

L2 ANSWER 1 OF 28 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1
AN 2003:46026 BIOSIS
DN PREV200300046026
TI Genetic manipulation of the pathogenic yeast Candida parapsilosis.
AU Nosek, Jozef (1); Adamikova, Lubica; Zemanova, Julia; Tomaska, Lubomir; Zufferey, Rachel; Ben Mamoun, Choukri
CS (1) Department of Biochemistry, Faculty of Natural Sciences, Comenius University, Mlynska dolina CH-1, 84215, Bratislava, Slovakia: nosek@fns.uniba.sk Slovakia
SO Current Genetics, (October 2002, 2002) Vol. 42, No. 1, pp. 27-35. print.
ISSN: 0172-8083.
DT Article
LA English

L2 ANSWER 2 OF 28 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 2
AN 2001:423958 BIOSIS
DN PREV200100423958
TI Diversity of Streptococcus salivarius ptsH mutants that can be isolated in the presence of 2-deoxyglucose and galactose and characterization of two mutants synthesizing reduced levels of HPr, a phosphocarrier of the phosphoenolpyruvate:sugar phosphotransferase system.
AU Thomas, Suzanne; Brochu, Denis; Vadeboncoeur, Christian (1)
CS (1) Groupe de Recherche en Ecologie Buccale (GREB), Departement de Biochimie et de Microbiologie, Faculte des Sciences et de Genie, and Faculte de Medecine Dentaire, Universite Laval, Laval, PQ, G1K 7P4:

Christian.Vadeboncoeur@bcm.ulaval.ca Canada
SO Journal of Bacteriology, (September, 2001) Vol. 183, No. 17, pp. 5145-5154. print.
ISSN: 0021-9193.
DT Article
LA English
SL English

L2 ANSWER 3 OF 28 CAPLUS COPYRIGHT 2003 ACS
AN 2000:133844 CAPLUS
DN 132:178178
TI Galactose utilization as a positive ***selection*** marker in the transformation of plant ***cells***
IN Jorsboe, Morten; Brunstedt, Janne; Jorgensen, Kirsten
PA Danisco A/S, Den.
SO PCT Int. Appl., 86 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000009705	A2	20000224	WO 1999-IB1465	19990811
	WO 2000009705	A3	20000615		
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2339346	AA	20000224	CA 1999-2339346	19990811
	AU 9951893	A1	20000306	AU 1999-51893	19990811
	GB 2343183	A1	20000503	GB 1999-18988	19990811
	GB 2343183	B2	20010117		
	EP 1105500	A2	20010613	EP 1999-936927	19990811
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
PRAI	GB 1998-17465	A	19980811		
	WO 1999-IB1465	W	19990811		

L2 ANSWER 4 OF 28 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 3
AN 2000:266074 BIOSIS
DN PREV200000266074
TI Overexpression of human UDP-glucose pyrophosphorylase rescues galactose-1-phosphate uridyltransferase-deficient yeast.
AU Lai, Kent; Elsas, Louis J. (1)
CS (1) Division of Medical Genetics, Department of Pediatrics, Emory University School of Medicine, 2040 Ridgewood Drive, Atlanta, GA, 30322 USA
SO Biochemical and Biophysical Research Communications, (May 10, 2000) Vol. 271, No. 2, pp. 392-400. print..
ISSN: 0006-291X.
DT Article

LA English
SL English

=> d l2 5-10

L2 ANSWER 5 OF 28 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 4
AN 2000:70689 BIOSIS
DN PREV200000070689
TI Phenotypic consequences resulting from a methionine-to-valine substitution at position 48 in the HPr protein of Streptococcus salivarius.
AU Plamondon, Pascale; Brochu, Denis; Thomas, Suzanne; Fradette, Julie; Gauthier, Lucie; Vaillancourt, Katy; Buckley, Nicole; Frenette, Michel; Vadeboncoeur, Christian (1)
CS (1) GREB, Universite Laval, Cite Universitaire, Quebec, PQ Canada
SO Journal of Bacteriology, (Nov., 1999) Vol. 181, No. 22, pp. 6914-6921. ISSN: 0021-9193.
DT Article
LA English
SL English

L2 ANSWER 6 OF 28 CAPLUS COPYRIGHT 2003 ACS
AN 1997:174891 CAPLUS
DN 126:167816
TI Chinese hamster ***cells*** containing shuttle vectors for detecting chemical mutagens
IN Yamada, Tooru; Kishida, Fumio
PA Sumitomo Chemical Co, Japan
SO Jpn. Kokai Tokkyo Koho, 17 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 09009992	A2	19970114	JP 1995-163550	19950629
PRAI	JP 1995-163550		19950629		

L2 ANSWER 7 OF 28 AGRICOLA DUPLICATE 5
AN 92:74338 AGRICOLA
DN IND92042471
TI Direct ***selection*** of ***galactokinase*** -negative mutants of Candida albicans using 2-deoxy-galactose.
AU Gorman, J.A.; Gorman, J.W.; Koltin, Y.
CS Bristol-Myers, Squibb Pharmaceutical Research Institute, Princeton, NJ
AV DNAL (QH426.C8)
SO Current genetics, 1992. Vol. 21, No. 3. p. 203-206
Publisher: Berlin, W. Ger. : Springer International.
CODEN: CUGEDS; ISSN: 0172-8083
NTE Includes references.
DT Article
FS Non-U.S. Imprint other than FAO
LA English

L2 ANSWER 8 OF 28 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 6

AN 1990:471285 BIOSIS
DN BA90:110705
TI ***SELECTION*** AND ANALYSIS OF GALACTOSE METABOLIC PATHWAY VARIANTS OF A MOUSE LIVER CELL LINE.
AU ZARET K S; STEVENS K A
CS SECT. OF BIOCHEM., DIV. OF BIOL. AND MED., BROWN UNIV., PROVIDENCE, RHODE ISLAND 02912.
SO MOL CELL BIOL, (1990) 10 (9), 4582-4589.
CODEN: MCEBD4. ISSN: 0270-7306.
FS BA; OLD
LA English

L2 ANSWER 9 OF 28 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 7
AN 1989:357040 BIOSIS
DN BA88:49154
TI REGULATED EXPRESSION AT HIGH COPY NUMBER ALLOWS PRODUCTIONS OF A GROWTH INHIBITORY ONCOGENE PRODUCTS IN DROSOPHILA SCHNEIDER ***CELLS*** .
AU JOHANSEN H; VAN DER STRATEN A; SWEET R; OTTO E; MARONI G; ROSENBERG M
CS BIOPHARMACEUTICAL RES. DEV., SMITH KLINE FRENCH LABORATORIES, RES. DEV. DIV., KING PRUSSIA, PA.
SO GENES DEV, (1989) 3 (6), 882-889.
CODEN: GEDEEP. ISSN: 0890-9369.
FS BA; OLD
LA English

L2 ANSWER 10 OF 28 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 8
AN 1991:524259 BIOSIS
DN BA92:135719
TI INTRODUCTION AND CONSTITUTIVE EXPRESSION OF GENE PRODUCTS IN CULTURED DROSOPHILA ***CELLS*** USING HYGROMYCIN B ***SELECTION*** .
AU VAN DER STRATEN A; JOHANSEN H; ROSENBERG M; SWEET R W
CS SMITH KLINE AND FRENCH LAB., DEP. MOLECULAR GENETICS, RES. DEVELOPMENT DIVISION, P.O. BOX 1539, KING OF PRUSSIA, PA.
SO METHODS MOL CELL BIOL, (1989) 1 (1), 1-8.
CODEN: MMCBEV. ISSN: 0898-7750.
FS BA; OLD
LA English

=> d l2 8 ab

L2 ANSWER 8 OF 28 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 6
AB To study the genetic expression and regulation of galactose-matabolizing enzymes, we mutagenized the mouse liver H2.35 cell line and selected for cell clones resistant to the toxic galactose analog, 2-deoxy-D-galactose (2-DOG). One cloned line, designated H12.10, was stably resistant to high levels of 2-DOG and was completely deficient in ***galactokinase*** activity. ***Galactokinase*** activity and growth sensitivity to 2-DOG could be restored by transfecting H12.10 ***cells*** with a plasmid containing the Escherichia coli ***galactokinase*** (galK) gene fused to a eucaryotic promoter; thus, the 2-DOG ***selection*** could be directed against transfected recombinant constructs in a liver cell line. We also found that H2.35 ***cells*** could not utilize galactose as a primary carbon source because of a deficiency in galactose-1-phosphate

uridyltransferase; a variant line of H2.35 ***cells*** selected in galactose medium expressed higher levels of uridyltransferase activity. Finally, we found that in all mammalian cell lines tested, ***galactokinase*** expression was the same whether the medium contained glucose, galactose, or both sugars. These studies demonstrate differences between mammalian ***cells*** and yeast ***cells*** in the regulation of gal enzymes, and they define different schemes for obtaining altered expression of genes in the galactose metabolic pathway. The isogenic liver cell lines described here can also serve as model systems for studying galactosemias, which are inherited disorders of galactose metabolism in humans.

=> d l2 8 ibib ab

L2 ANSWER 8 OF 28 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 6

ACCESSION NUMBER: 1990:471285 BIOSIS
DOCUMENT NUMBER: BA90:110705
TITLE: ***SELECTION*** AND ANALYSIS OF GALACTOSE METABOLIC PATHWAY VARIANTS OF A MOUSE LIVER CELL LINE.
AUTHOR(S): ZARET K S; STEVENS K A
CORPORATE SOURCE: SECT. OF BIOCHEM., DIV. OF BIOL. AND MED., BROWN UNIV., PROVIDENCE, RHODE ISLAND 02912.
SOURCE: MOL CELL BIOL, (1990) 10 (9), 4582-4589.
CODEN: MCEBD4. ISSN: 0270-7306.
FILE SEGMENT: BA; OLD
LANGUAGE: English

AB To study the genetic expression and regulation of galactose-matabolizing enzymes, we mutagenized the mouse liver H2.35 cell line and selected for cell clones resistant to the toxic galactose analog, 2-deoxy-D-galactose (2-DOG). One cloned line, designated H12.10, was stably resistant to high levels of 2-DOG and was completely deficient in ***galactokinase*** activity. ***Galactokinase*** activity and growth sensitivity to 2-DOG could be restored by transfecting H12.10 ***cells*** with a plasmid containing the Escherichia coli ***galactokinase*** (galK) gene fused to a eucaryotic promoter; thus, the 2-DOG ***selection*** could be directed against transfected recombinant constructs in a liver cell line. We also found that H2.35 ***cells*** could not utilize galactose as a primary carbon source because of a deficiency in galactose-1-phosphate uridyltransferase; a variant line of H2.35 ***cells*** selected in galactose medium expressed higher levels of uridyltransferase activity. Finally, we found that in all mammalian cell lines tested, ***galactokinase*** expression was the same whether the medium contained glucose, galactose, or both sugars. These studies demonstrate differences between mammalian ***cells*** and yeast ***cells*** in the regulation of gal enzymes, and they define different schemes for obtaining altered expression of genes in the galactose metabolic pathway. The isogenic liver cell lines described here can also serve as model systems for studying galactosemias, which are inherited disorders of galactose metabolism in humans.

=> d l2 7 ab

L2 ANSWER 7 OF 28 AGRICOLA DUPLICATE 5
AB The galactose analogue 2-deoxy-galactose (2DG) has been widely used to select for mutations in the gene encoding the galactose pathway enzyme ***galactokinase*** (GalK). We have tested the effect of 2DG on Candida albicans to see if it could be used to obtain GalK(-1) mutants in this diploid asexual yeast. 2DG was shown to be toxic to wild-type ***cells*** . Enzyme assays demonstrated that 2DG can induce GalK as efficiently as galactose. Examination of the initial rate of galactose uptake indicated that the galactose transport system is constitutive. 2DG-resistant mutants were isolated from mutagenized cultures and shown to have very low levels of GalK activity. The potential genetic applications of this system of direct mutant ***selection*** are discussed.

=> s positive(w)selection and galactose
L3 48 POSITIVE(W) SELECTION AND GALACTOSE

=> duplicate remove l3
DUPLICATE PREFERENCE IS 'AGRICOLA, BIOSIS, EMBASE, CAPLUS'
KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):n
PROCESSING COMPLETED FOR L3
L4 24 DUPLICATE REMOVE L3 (24 DUPLICATES REMOVED)

=> d l2 11-20 ti

L2 ANSWER 11 OF 28 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 9
TI ISOLATION OF MUTATIONS THAT ACT IN TRANS TO ALTER EXPRESSION FROM A YEAST HSP70 PROMOTER.

L2 ANSWER 12 OF 28 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 10
TI A COORDINATE RELATIONSHIP BETWEEN THE GALK AND THE TK-1 GENES OF THE CHINESE HAMSTER.

L2 ANSWER 13 OF 28 CAPLUS COPYRIGHT 2003 ACS
TI Toxicity of 2-deoxygalactose to Saccharomyces cerevisiae ***cells*** consitutively synthesizing galactose-metabolizing enzymes

L2 ANSWER 14 OF 28 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 11
TI ***SELECTION*** OF GALACTOSE FERMENTING STREPTOCOCCUS-THERMOPHILUS IN LACTOSE LIMITED CHEMOSTAT CULTURES.

L2 ANSWER 15 OF 28 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 12
TI COTRANSFER AND PHENOTYPIC STABILIZATION OF SYNTENIC AND ASYNTENIC MINK GENES INTO MOUSE ***CELLS*** BY CHROMOSOME-MEDIATED GENE TRANSFER.

L2 ANSWER 16 OF 28 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 13
TI RECESSIVE MUTATIONS CONFERRING RESISTANCE TO CARBON CATABOLITE REPRESSION OF GALACTO KINASE SYNTHESIS IN SACCHAROMYCES-CEREVISIAE.

L2 ANSWER 17 OF 28 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 14
TI MUTATION AT AUTOSOMAL LOCI OF CHINESE HAMSTER OVARY ***CELLS***

INVOLVEMENT OF A HIGH FREQUENCY EVENT SILENCING 2 LINKED ALLELES.

L2 ANSWER 18 OF 28 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 15
TI THE EXPRESSION IN YEAST OF THE ESCHERICHIA-COLI GAL-K GENE ON CYC-1 GAL-K FUSION PLASMIDS.

L2 ANSWER 19 OF 28 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 16
TI THE BIOCHEMICAL MECHANISMS OF INHERITED GALACTOSEMIA IN THE W-SSM RAT STRAIN.

L2 ANSWER 20 OF 28 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 17
TI HEREDITARY GALACTOSEMIA IN RATS BIOCHEMICAL MECHANISMS OF DISEASE DEVELOPMENT.

=> d l3 1-10 ti

L3 ANSWER 1 OF 48 AGRICOLA
TI Isolation and characterization of pokeweed antiviral protein mutations in Saccharomyces cerevisiae: identification of residues important for toxicity.

L3 ANSWER 2 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI The structure of anti-Gal immunoglobulin genes in naive and stimulated Gal knockout mice.

L3 ANSWER 3 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Diversity of Streptococcus salivarius ptsH mutants that can be isolated in the presence of 2-deoxyglucose and ***galactose*** and characterization of two mutants synthesizing reduced levels of HPr, a phosphocarrier of the phosphoenolpyruvate:sugar phosphotransferase system.

L3 ANSWER 4 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Background mutations and polymorphisms in lacZ-plasmid transgenic mice.

L3 ANSWER 5 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI A ***positive*** ***selection*** for plasmid loss in Saccharomyces cerevisiae using ***galactose*** -inducible growth inhibitory sequences.

L3 ANSWER 6 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Lactobacillus casei 64H contains a phosphoenolpyruvate-dependent phosphotransferase system for uptake of ***galactose*** , as confirmed by analysis of ptsH and different gal mutants.

L3 ANSWER 7 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Isolation and characteristics of pokeweed antiviral protein mutations in Saccharomyces cerevisiae: Identification of residues important for toxicity.

L3 ANSWER 8 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Isolation of a temperature-sensitive autolysis mutant from sake yeast Kyokai No. 7-note.

L3 ANSWER 9 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI ***Positive*** ***selection*** for resistance to 2-deoxyglucose gives rise, in Streptococcus salivarius, to seven classes of pleiotropic mutants, including ptsH and ptsI missense mutants.

L3 ANSWER 10 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI A COMPARISON OF INTRAMOLECULAR REARRANGEMENTS PROMOTED BY TRANSPOSONS TN5 AND TN10.

=> d l3 1 ab

L3 ANSWER 1 OF 48 AGRICOLA
AB Pokeweed antiviral protein (PAP), a 29-kDa protein isolated from Phytolacca americana inhibits translation by catalytically removing a specific adenine residue from the 28S rRNA of eukaryotic ribosomes. PAP has potent antiviral activity against many plant and animal viruses, including human immunodeficiency virus. We describe here development of a ***positive*** ***selection*** system to isolate PAP mutants with reduced toxicity. In vitro translation in the presence or absence of microsomal membranes shows that PAP is synthesized as a precursor and undergoes at least two different proteolytic processing steps to generate mature PAP. The PAP cDNA was placed under control of the ***galactose*** -inducible GAL1 promoter and transformed into Saccharomyces cerevisiae. Induction of PAP expression was lethal to yeast. The PAP expression plasmid was mutagenized and plasmids encoding mutant PAP genes were identified by their failure to kill S. cerevisiae. A number of mutant alleles were sequenced. In one mutant, a point mutation at Glu-177 inactivated enzymatic function in vitro, suggesting that this glutamic acid residue is located at or near the catalytic site. Mutants with either point mutations near the N terminus or a nonsense mutation at residue 237 produced protein that was enzymatically active in vitro, suggesting that the toxicity of PAP is not due solely to enzymatic activity. Toxicity of PAP appears to be a multistep process that involves possibly different domains of the protein.

=> d l3 11-24 ti

L3 ANSWER 11 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI A SIMPLE AND RAPID PROCEDURE FOR SEQUENCING LONG 40-KB DNA FRAGMENTS.

L3 ANSWER 12 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI EVIDENCE FOR REPLICATIVE TRANSPOSITION OF TN-5 AND TN-9.

L3 ANSWER 13 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI A RAPID PROCEDURE FOR DNA SEQUENCING USING TRANSPOSON-PROMOTED DELETIONS IN ESCHERICHIA-COLI.

L3 ANSWER 14 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI REGULATION OF METHYL-BETA-D THIO GALACTO PYRANOSIDE 6 PHOSPHATE ACCUMULATION IN STREPTOCOCCUS-LACTIS BY EXCLUSION AND EXPULSION MECHANISMS.

L3 ANSWER 15 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI EVIDENCE FOR THE UTILIZATION OF ***GALACTOSE*** BY NORMAL AND TRANSFORMED PLANT CELLS IN CULTURE.

L3 ANSWER 16 OF 48 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
TI New technique using ***galactose*** -specific lectin for isolation of fetal cells from maternal blood.

L3 ANSWER 17 OF 48 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
TI The structure of anti-Gal immunoglobulin genes in naive and stimulated Gal knockout mice.

L3 ANSWER 18 OF 48 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
TI Diversity of Streptococcus salivarius ptsH mutants that can be isolated in the presence of 2-deoxyglucose and ***galactose*** and characterization of two mutants synthesizing reduced levels of HPr, a phosphocarrier of the phosphoenolpyruvate:sugar phosphotransferase system.

L3 ANSWER 19 OF 48 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
TI Background mutations and polymorphisms in lacZ-plasmid transgenic mice.

L3 ANSWER 20 OF 48 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
TI A ***positive*** ***selection*** for plasmid loss in Saccharomyces cerevisiae using ***galactose*** -inducible growth inhibitory sequences.

L3 ANSWER 21 OF 48 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
TI Lactobacillus casei 64H contains a phosphoenolpyruvate-dependent phosphotransferase system for uptake of ***galactose*** , as confirmed by analysis of ptsH and different gal mutants.

L3 ANSWER 22 OF 48 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
TI Isolation and characterization of pokeweed antiviral protein mutations in Saccharomyces cerevisiae: Identification of residues important for toxicity.

L3 ANSWER 23 OF 48 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
TI ***Positive*** ***selection*** for resistance to 2-deoxyglucose gives rise, in Streptococcus salivarius, to seven classes of pleiotropic mutants, including ptsH and ptsI missense mutants.

L3 ANSWER 24 OF 48 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
TI A comparison of intramolecular rearrangements promoted by transposons Tn5 and Tn10.

=> d l3 15 ab ibib

L3 ANSWER 15 OF 48 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AB Sucrose may be substituted with ***galactose*** in Murashige-Skoog medium for the growth of Vinca rosea callus cells, and V. rosea cells were able to utilize ***galactose*** as efficiently as sucrose. However, the growth of crown gall tumor cells (transformed by Agrobacterium tumefaciens) was 4-fold greater than that of normal cells (after 16 days at 25.degree. C). Since both normal and crown gall tumor cells grow on ***galactose*** , a point is raised whether genetic transformations in higher plants are actually due to the expression of bacterial genes in plnat cells; fortuitous cloning brought about by ***positive*** ***selection*** procedures; or expression of an adaptive gene in plants analogous to newly generated secondary .beta.-galactosidase in bacteria.

ACCESSION NUMBER: 1977:206746 BIOSIS
DOCUMENT NUMBER: BA64:29110
TITLE: EVIDENCE FOR THE UTILIZATION OF ***GALACTOSE*** BY NORMAL AND TRANSFORMED PLANT CELLS IN CULTURE.
AUTHOR(S): LIN B-C; KADO C I
SOURCE: BOT BULL ACAD SIN (TAIPEI), (1977) 18 (1), 71-77. CODEN: BBASA6. ISSN: 0006-8063.
FILE SEGMENT: BA; OLD
LANGUAGE: Unavailable

=> galactoase and selection and yeast
GALACTOASE IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> s galactose and selection and yeast
L5 133 GALACTOSE AND SELECTION AND YEAST

=> duplicate remove l5
DUPLICATE PREFERENCE IS 'AGRICOLA, BIOSIS, EMBASE, CAPLUS'
KEEP DUPLICATES FROM MORE THAN ONE FILE? Y/(N):n
PROCESSING COMPLETED FOR L5
L6 77 DUPLICATE REMOVE L5 (56 DUPLICATES REMOVED)

=> s l6 and toxic
L7 7 L6 AND TOXIC

=> d l7 1-7 ti

L7 ANSWER 1 OF 7 AGRICOLA
TI Direct ***selection*** of galactokinase-negative mutants of Candida albicans using 2-deoxy- ***galactose*** .

L7 ANSWER 2 OF 7 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Overexpression of human UDP-glucose pyrophosphorylase rescues ***galactose*** -1-phosphate uridyltransferase-deficient ***yeast***
.

L7 ANSWER 3 OF 7 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI ***SELECTION*** AND ANALYSIS OF ***GALACTOSE*** METABOLIC PATHWAY VARIANTS OF A MOUSE LIVER CELL LINE.

L7 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2003 ACS
TI Combinatorial expression libraries with individual members of the library containing concatemers of expression cassettes

L7 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2003 ACS
TI Combinatorial expression libraries with individual members of the library containing concatemers of expression cassettes

L7 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2003 ACS
TI In vivo cloning of large DNA fragments by host cell-mediated homologous recombination

L7 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2003 ACS

TI A system for regulatable expression and secretion of recombinant proteins in ***yeast*** and its application in manufacture of Epstein-Barr virus membrane antigen

=> d l7 2 ab ibib

L7 ANSWER 2 OF 7 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

AB To better understand the pathophysiology of ***galactose*** -1-phosphate uridyltransferase (GALT) deficiency in humans, we studied the mechanisms by which a GALT-deficient ***yeast*** survived on ***galactose*** medium. Under normal conditions, GALT-deficient ***yeast*** cannot grow in medium that contains 0.2% ***galactose*** as the sole carbohydrate, a phenotype of Gal-. We isolated revertants from a GALT-deficient ***yeast*** by direct ***selection*** for growth in ***galactose*** , a phenotype of Gal+. Comparison of gene expression profiles among wild-type and revertant strains on ***galactose*** medium revealed that the revertant down-regulated genes encoding enzymes including galactokinase, ***galactose*** permease, and UDP- ***galactose*** -4-epimerase (the GAL regulon). By contrast, the revertant strain upregulated the gene for UDP-glucose pyrophosphorylase, UGP1. There was reduced accumulation of ***galactose*** -1-phosphate in the ***galactose*** -grown revertant cells when compared to the GALT-deficient parent cells. In vitro biochemical analysis showed that UDP-glucose pyrophosphorylase had bifunctional properties and could catalyze the conversion of ***galactose*** -1-phosphate to UDP- ***galactose*** in the presence of UTP. To test if augmented expression of this gene could produce a Gal+ phenotype in the GALT-deficient parent cells, we overexpressed the ***yeast*** UGP1 and the human homolog, hUGP2 in the mutant strain. The Gal- ***yeast*** transformed with either UGP1 or hUGP2 regained their ability to grow on ***galactose*** . We conclude that revertant can grow on ***galactose*** medium by reducing the accumulation of ***toxic*** precursors through down-regulation of the GAL regulon and up-regulation of the UGP1 gene. We speculate that increased expression of hUGP2 in humans could alleviate poor outcomes in humans with classic galactosemia.

ACCESSION NUMBER: 2000:266074 BIOSIS
DOCUMENT NUMBER: PREV200000266074
TITLE: Overexpression of human UDP-glucose pyrophosphorylase rescues ***galactose*** -1-phosphate uridyltransferase-deficient ***yeast*** .
AUTHOR(S): Lai, Kent; Elsas, Louis J. (1)
CORPORATE SOURCE: (1) Division of Medical Genetics, Department of Pediatrics, Emory University School of Medicine, 2040 Ridgewood Drive, Atlanta, GA, 30322 USA
SOURCE: Biochemical and Biophysical Research Communications, (May 10, 2000) Vol. 271, No. 2, pp. 392-400. print.. ISSN: 0006-291X.
DOCUMENT TYPE: Article
LANGUAGE: English
SUMMARY LANGUAGE: English

=> d l7 4-7 ab

L7 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2003 ACS

AB Combinatorial gene expression libraries in which recombination between

individual sequences can take place within an individual cell and methods of constructing such libraries are described. Each member of the library contains a large no. of expression cassettes that are randomly selected from a pool of cassettes during the construction of the library. Individual expression cassettes are flanked by a common pair of restriction sites and have the same promoter and terminator to regulate expression of the cloned inserts. The library of concatemers is created from a library of individual clones. This primary library, typically a cDNA library, has the individual cassette and its flanking restriction sites flanked by a second pair of restriction sites. The cassettes are released from the library and ligated into concatemers that are then cloned into a vector capable of stabilizing large inserts, esp. artificial chromosomes. The variability within the combinatorial library can be increased by using cDNA libraries from multiple sources. Cassettes within the library are free to recombine with one another to create genes encoding novel activities or functions that can be identified by ***selection*** or screening. Such libraries are useful in discovery of novel or modified metabolic pathways leading to the prodn. of novel compds. for e.g. drug discovery and to the prodn. of known compds. in novel quantities or in novel compartments of the cells. The expression libraries in particular are composed of host cells capable of coordinated and controllable expression of large nos. of heterologous genes in the host cells.

L7 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2003 ACS

AB Combinatorial gene expression libraries in which individual clones contain large nos. of expression cassettes and methods of constructing such libraries are described. Each member of the library contains a large no. of expression cassettes that are randomly selected from a pool of cassettes during the construction of the library. Individual expression cassettes are flanked by a common pair of restriction sites and have the same promoter and terminator for uniform regulation of expression of the cloned inserts. The library of concatemers is created from a library of individual clones. This primary library, typically a cDNA library, has the individual cassette and its flanking restriction sites flanked by a second pair of restriction sites. The cassettes are released from the library and ligated into concatemers that are then cloned into a vector capable of stabilizing large inserts, esp. artificial chromosomes. The variability within the combinatorial library can be increased by using cDNA libraries from multiple sources. Such libraries are useful in discovery of novel or modified metabolic pathways leading to the prodn. of novel compds. for e.g. drug discovery and to the prodn. of known compds. in novel quantities or in novel compartments of the cells. The expression libraries in particular are composed of host cells capable of coordinated and controllable expression of large nos. of heterologous genes in the host cells.

L7 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2003 ACS

AB A method of cloning large target DNA fragments into a suitable circular or linear vector using in vivo homologous recombination between the vector and a DNA flanked by vector-derived sequences is described. After intermol. homologous recombination events in a recombination competent-host cell, the vector intermediate contg. target fragments can be circularized by gap repair mechanism. The efficient in vivo cloning was demonstrated by double or triple homologous recombination between one plasmid (circular or linear from inverse PCR-amplified plasmid

intermediate) and one or two linear target DNA fragments. Human cyclin cDNA flanked by homologous recombination sequence at both ends was PCR amplified by two primers contg. the recombination sequence at their 5' portions. The linear intermediate of pAR253-1 (contg. Leu2 as the ***selection*** marker) was generated by inverse PCR-amplification by primers also contg. the desired recombination sequence and thus also flanked by recombination sequence. These cyclin DNA fragment and a linear plasmid intermediates or its circularized form was cotransformed into Saccharomyces cerevisiae strain YST134. The ***galactose*** -inducible ***yeast*** expression vector of human cyclin A gene (controlled by Gal1 promoter and Gal4 transcription terminator) was created after in vivo homologous recombination and gap repair events by so-called GRIPP (gap repair with in inverse PCR-amplified plasmid) technol. The ***yeast*** colonies were counted after replica-plating of ***yeast*** transformation reaction onto both Glucose SC-Leu and ***Galactose*** SC-Leu plates. The colonies on the latter plates are neg. for the presence of expected cyclin expression vector since cyclin A was ***toxic*** to host cells and killed them after induction by ***galactose*** . The in vivo cloning efficiency of target human cyclin A cDNA was 97% and 95% for the circular or the linear plasmid resp. The triple cloning by including a third fragment contg. K. lactis URA3 cassette in the expts. (similar to previous test but using two different plasmid-derived cyclin DNA fragments) also showed about 44% or 84% cyclin pos. colonies and 63% or 95% URA3 pos. colonies. This method enable rapid, efficient, and scalable cloning of one or more specific target DNA fragments into suitable expression vectors without the need for performing an in vivo ligation.

L7 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2003 ACS

AB A genetic expression system which allows foreign proteins to be processed by the secretory pathway of ***yeast*** is prepd. using ***galactose*** -inducible promoters and .alpha.-mating factor pre-pro-leader sequences. This system allows expression of glycoproteins which exert a ***toxic*** effect on the cells or whose expression is neg. selected. A 0.35 kbp fragment contg. the .alpha.-mating factor pre-pro-leader sequences, a BamHI cloning site, and translational termination sites in all 3 reading frames was isolated from plasmid pJC197 and linked with a 6.3 kbp fragment from shuttle vector YEp51 contg. the ***yeast*** GAL10 gene promoter sequence and with a 35 bp SalI-PstI synthetic oligonucleotide adapter to form pGAL10-MF.alpha.1. DNA encoding Epstein-Barr virus membrane antigen (EBMA; gp 350/gp 220) was isolated from plasmid B-68' was cloned into the BamHI site of plasmid pGAL10-M.alpha.1 to form pYEBV-2. Saccharomyces cerevisiae Transformed with pYEBV-2 was cultivated in glycerol-lactic acid and the synthesis of EBMA was induced by addn. of ***galactose*** 2% in early exponential phase.

=> d l7 1 ab 3 ab

L7 ANSWER 1 OF 7 AGRICOLA

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be ***toxic*** to wild-type cells. Enzyme assays demonstrated that 2DG can induce GalK as efficiently as ***galactose*** . Examination of the initial rate of ***galactose*** uptake indicated that the ***galactose*** transport system is constitutive. 2DG-resistant mutants were isolated from mutagenized cultures and shown to have very low levels of GalK activity. The potential genetic applications of this system of direct mutant ***selection*** are discussed.

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L7 ANSWER 3 OF 7 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

AB To study the genetic expression and regulation of ***galactose*** -matabolizing enzymes, we mutagenized the mouse liver H2.35 cell line and selected for cell clones resistant to the ***toxic*** ***galactose*** analog, 2-deoxy-D- ***galactose*** (2-DOG). One cloned line, designated H12.10, was stably resistant to high levels of 2-DOG and was completely deficient in galactokinase activity. Galactokinase activity and growth sensitivity to 2-DOG could be restored by transfecting H12.10 cells with a plasmid containing the Escherichia coli galactokinase (galK) gene fused to a eucaryotic promoter; thus, the 2-DOG ***selection*** could be directed against transfected recombinant constructs in a liver cell line. We also found that H2.35 cells could not utilize ***galactose*** as a primary carbon source because of a deficiency in ***galactose*** -1-phosphate uridyltransferase; a variant line of H2.35 cells selected in ***galactose*** medium expressed higher levels of uridyltransferase activity. Finally, we found that in all mammalian cell lines tested, galactokinase expression was the same whether the medium contained glucose, ***galactose*** , or both sugars. These studies demonstrate differences between mammalian cells and ***yeast*** cells in the regulation of gal enzymes, and they define different schemes for obtaining altered expression of genes in the ***galactose*** metabolic pathway. The isogenic liver cell lines described here can also serve as model systems for studying galactosemias, which are inherited disorders of ***galactose*** metabolism in humans.

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because of a deficiency in ***galactose*** -1-phosphate uridyltransferase; a variant line of H2.35 cells selected in ***galactose*** medium expressed higher levels of uridyltransferase activity. Finally, we found that in all mammalian cell lines tested, galactokinase expression was the same whether the medium contained glucose, ***galactose*** , or both sugars. These studies demonstrate differences between mammalian cells and ***yeast*** cells in the regulation of gal enzymes, and they define different schemes for obtaining altered expression of genes in the ***galactose*** metabolic pathway. The isogenic liver cell lines described here can also serve as model systems for studying galactosemias, which are inherited disorders of ***galactose*** metabolism in humans.

=> d l6 1-10 ti

L6 ANSWER 1 OF 77 CAPLUS COPYRIGHT 2003 ACS
TI Reagents and methods for detection and characterization of protein-protein interactions, nuclear export and localization sequences and inducible Gal4p-mediated gene expression in ***yeast***

L6 ANSWER 2 OF 77 CAPLUS COPYRIGHT 2003 ACS
TI Combinatorial expression libraries with individual members of the library containing concatemers of expression cassettes

L6 ANSWER 3 OF 77 CAPLUS COPYRIGHT 2003 ACS
TI Combinatorial expression libraries with individual members of the library containing concatemers of expression cassettes

L6 ANSWER 4 OF 77 CAPLUS COPYRIGHT 2003 ACS
TI Interaction trap systems for detecting protein interactions

L6 ANSWER 5 OF 77 CAPLUS COPYRIGHT 2003 ACS
TI Organic acid-producing sake ***yeast***

L6 ANSWER 6 OF 77 CAPLUS COPYRIGHT 2003 ACS
TI Stability studies of recombinant Saccharomyces cerevisiae in the presence of varying ***selection*** pressure

L6 ANSWER 7 OF 77 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1
TI Production of exopolysaccharides by lactic acid bacteria isolated from traditional fermented foods in Nigeria.

L6 ANSWER 8 OF 77 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 2
TI Sets of integrating plasmids and gene disruption cassettes containing improved counter- ***selection*** markers designed for repeated use in budding ***yeast*** .

L6 ANSWER 9 OF 77 CAPLUS COPYRIGHT 2003 ACS
TI Fermentation of starch to ethanol by an amylolytic ***yeast*** Saccharomyces diastaticus SM-10

L6 ANSWER 10 OF 77 CAPLUS COPYRIGHT 2003 ACS
TI Breeding of starch utilization ***yeast***

=> d l6 11-20 ti

L6 ANSWER 11 OF 77 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 3
TI Genetic manipulation of the pathogenic ***yeast*** Candida parapsilosis.

L6 ANSWER 12 OF 77 CAPLUS COPYRIGHT 2003 ACS
TI Cloning of Glyceraldehyde-3-phosphate Dehydrogenase-Encoding Genes in Mucor circinelloides (Syn. racemosus) and Use of the gpd1 Promoter for Recombinant Protein Production

L6 ANSWER 13 OF 77 CAPLUS COPYRIGHT 2003 ACS
TI Methods and uses thereof for generating hypermutable ***yeast*** for mutagenesis

L6 ANSWER 14 OF 77 CAPLUS COPYRIGHT 2003 ACS
TI ***Selection*** marker gene removal in Saccharomyces cerevisiae using ***galactose*** -inducible growth inhibitory sequences and altered FRT sequences for efficient transformation

L6 ANSWER 15 OF 77 CAPLUS COPYRIGHT 2003 ACS
TI Nystatin-resistant Aspergillus sp. and process for preparing triol heptanoic acid employing the same

L6 ANSWER 16 OF 77 AGRICOLA DUPLICATE 4
TI Establishment of Arabidopsis thaliana ribosomal protein RPL23A-1 as a functional homologue of Saccharomyces cerevisiae ribosomal protein L25.

L6 ANSWER 17 OF 77 CAPLUS COPYRIGHT 2003 ACS
TI Thermostable protease production process and strain improvement of selected indigenous thermophilic bacteria to overproduce the enzymes

L6 ANSWER 18 OF 77 CAPLUS COPYRIGHT 2003 ACS
TI A novel ***yeast*** system for in vivo ***selection*** of recognition sequences: defining an optimal c-Myb-responsive element

L6 ANSWER 19 OF 77 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 5
TI Three aromatic amino acid residues critical for ***galactose*** transport in ***yeast*** Gal2 transporter.

L6 ANSWER 20 OF 77 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 6
TI Overexpression of human UDP-glucose pyrophosphorylase rescues ***galactose*** -1-phosphate uridyltransferase-deficient ***yeast***
.

=> d l6 6 ibib

L6 ANSWER 6 OF 77 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:389565 CAPLUS
DOCUMENT NUMBER: 137:108385
TITLE: Stability studies of recombinant Saccharomyces cerevisiae in the presence of varying

selection pressure
AUTHOR(S): Gupta, Jagdish C.; Mukherjee, K. J.
CORPORATE SOURCE: Centre for Biotechnology, Jawaharlal Nehru University, New Delhi, 110 067, India
SOURCE: Biotechnology and Bioengineering (2002), 78(5), 475-488
CODEN: BIBIAU; ISSN: 0006-3592
PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English
REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d l6 20 ibib

L6 ANSWER 20 OF 77 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 6
ACCESSION NUMBER: 2000:266074 BIOSIS
DOCUMENT NUMBER: PREV200000266074
TITLE: Overexpression of human UDP-glucose pyrophosphorylase rescues ***galactose*** -1-phosphate uridyltransferase-deficient ***yeast*** .
AUTHOR(S): Lai, Kent; Elsas, Louis J. (1)
CORPORATE SOURCE: (1) Division of Medical Genetics, Department of Pediatrics, Emory University School of Medicine, 2040 Ridgewood Drive, Atlanta, GA, 30322 USA
SOURCE: Biochemical and Biophysical Research Communications, (May 10, 2000) Vol. 271, No. 2, pp. 392-400. print..
ISSN: 0006-291X.
DOCUMENT TYPE: Article
LANGUAGE: English
SUMMARY LANGUAGE: English

=> d l6 21-30 ibib

L6 ANSWER 21 OF 77 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:62270 CAPLUS
DOCUMENT NUMBER: 135:147896
TITLE: Controlling gene expression in ***yeast*** by inducible site-specific recombination
AUTHOR(S): Cheng, Tzu-Hao; Chang, Chuang-Rung; Joy, Prabha; Yablok, Svetlana; Gartenberg, Marc R.
CORPORATE SOURCE: Department of Pharmacology, Robert Wood Johnson Medical School, University of Medicine and Dentistry of New Jersey, Piscataway, NJ, 08854, USA
SOURCE: Nucleic Acids Research (2000), 28(24), e108/1-e108/6
CODEN: NARHAD; ISSN: 0305-1048
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal
LANGUAGE: English
REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 22 OF 77 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:553970 CAPLUS

DOCUMENT NUMBER: 133:251332
TITLE: Expression of glucose oxidase by using recombinant ***yeast***
AUTHOR(S): Park, E.-H.; Shin, Y.-M.; Lim, Y.-Y.; Kwon, T.-H.; Kim, D.-H.; Yang, M.-S.
CORPORATE SOURCE: Institute for Molecular Biology and Genetics, Chonbuk National University, Chonbuk, 561-756, S. Korea
SOURCE: Journal of Biotechnology (2000), 81(1), 35-44
CODEN: JBITD4; ISSN: 0168-1656
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 23 OF 77 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:811353 CAPLUS
DOCUMENT NUMBER: 132:45824
TITLE: In vivo cloning of large DNA fragments by host cell-mediated homologous recombination
INVENTOR(S): Perkins, Edwards L.; Tugendreich, Stuart M.
PATENT ASSIGNEE(S): Iconix Pharmaceuticals Inc., USA
SOURCE: PCT Int. Appl., 35 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9966035	A2	19991223	WO 1999-US13785	19990617
WO 9966035	A3	20000406		
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
AU 9946943	A1	20000105	AU 1999-46943	19990617
EP 1088085	A2	20010404	EP 1999-930394	19990617
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
US 2002151058	A1	20021017	US 1999-336421	19990617
PRIORITY APPLN. INFO.:			US 1998-89676P P	19980617
			WO 1999-US13785 W	19990617

L6 ANSWER 24 OF 77 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 1999:476338 BIOSIS
DOCUMENT NUMBER: PREV199900476338
TITLE: A versatile bait vector allowing rapid isolation of prey vectors in Gal4-dependent ***yeast*** two-hybrid screens.
AUTHOR(S): Detlev, Bannasch; Manfred, Schwab (1)
CORPORATE SOURCE: (1) Division of Cytogenetics-H0400, Deutsches

Krebsforschungszentrum, Im Neuenheimer Feld 280, D-69120, Heidelberg Germany
SOURCE: Plasmid, (Sept., 1999) Vol. 42, No. 2, pp. 139-143. ISSN: 0147-619X.
DOCUMENT TYPE: Article
LANGUAGE: English
SUMMARY LANGUAGE: English

L6 ANSWER 25 OF 77 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 7
ACCESSION NUMBER: 1999:431820 BIOSIS
DOCUMENT NUMBER: PREV199900431820
TITLE: Cloning, sequencing, expression and allelic sequence diversity of ERG3 (C-5 sterol desaturase gene) in Candida albicans.
AUTHOR(S): Miyazaki, Yoshitsugu; Geber, Antonia; Miyazaki, Haruko; Falconer, Derek; Parkinson, Tanya; Hitchcock, Christopher; Grimberg, Brian; Nyswaner, Katherine; Bennett, John E. (1)
CORPORATE SOURCE: (1) Clinical Mycology Section, Laboratory of Clinical Investigation, National Institute of Allergy and Infectious Diseases, NIH, 10 Center Drive, Bethesda, MD, 20892 USA
SOURCE: Gene (Amsterdam), (Aug. 5, 1999) Vol. 236, No. 1, pp. 43-51. ISSN: 0378-1119.
DOCUMENT TYPE: Article
LANGUAGE: English
SUMMARY LANGUAGE: English

L6 ANSWER 26 OF 77 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 8
ACCESSION NUMBER: 1999:415833 BIOSIS
DOCUMENT NUMBER: PREV199900415833
TITLE: Construction of recombinant sake ***yeast*** containing a dominant FAS2 mutation without extraneous sequences by a two-step gene replacement protocol.
AUTHOR(S): Akada, Rinji (1); Matsuo, Kazuyoshi; Aritomi, Kazuo; Nishizawa, Yoshinori
CORPORATE SOURCE: (1) Department of Applied Chemistry and Chemical Engineering, Faculty of Engineering, Yamaguchi University, Tokiwadai, Ube, 755-8611 Japan
SOURCE: Journal of Bioscience and Bioengineering, (Jan., 1999) Vol. 87, No. 1, pp. 43-48. ISSN: 1389-1723.
DOCUMENT TYPE: Article
LANGUAGE: English
SUMMARY LANGUAGE: English

L6 ANSWER 27 OF 77 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 9
ACCESSION NUMBER: 1999:147042 BIOSIS
DOCUMENT NUMBER: PREV199900147042
TITLE: A positive ***selection*** for plasmid loss in Saccharomyces cerevisiae using ***galactose*** -inducible growth inhibitory sequences.
AUTHOR(S): Kawahata, Miho; Amari, Shinji; Nishizawa, Yoshinori; Akada, Rinji (1)
CORPORATE SOURCE: (1) Dep. Appl. Chemistry Chem. Eng., Fac. Eng., Yamaguchi

Univ., Tokiwadai, Ube 755-8611 Japan
SOURCE: Yeast, (Jan. 15, 1999) Vol. 15, No. 1, pp. 1-10.
ISSN: 0749-503X.
DOCUMENT TYPE: Article
LANGUAGE: English

L6 ANSWER 28 OF 77 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:618857 CAPLUS
DOCUMENT NUMBER: 129:226632
TITLE: Methods for identifying nucleic acid sequences encoding agents that affect cellular phenotypes
INVENTOR(S): Kamb, Carl Alexander; Poritz, Mark A.
PATENT ASSIGNEE(S): Ventana Genetics, Inc., USA
SOURCE: PCT Int. Appl., 45 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 11
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9839483	A1	19980911	WO 1998-US4376	19980227
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5955275	A	19990921	US 1997-812994	19970304
AU 9865438	A1	19980922	AU 1998-65438	19980227
AU 745827	B2	20020411		
EP 973943	A1	20000126	EP 1998-911497	19980227
EP 973943	B1	20020918		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2001514510	T2	20010911	JP 1998-538833	19980227
AT 224457	E	20021015	AT 1998-911497	19980227
NO 9904290	A	19991103	NO 1999-4290	19990903

PRIORITY APPLN. INFO.: US 1997-812994 A 19970304
US 1997-800664 A2 19970214
WO 1998-US4376 W 19980227
REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 29 OF 77 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:246825 CAPLUS
DOCUMENT NUMBER: 128:282095
TITLE: Use of a temperature-sensitive mutant for construction of protoplast fusants between sake ***yeasts***
AUTHOR(S): Hosino, Tetsuya; Iijima, Naoto; Goto, Kuniyasu
CORPORATE SOURCE: Ind. Res. Inst. Chiba Prefect., Chiba, 264, Japan
SOURCE: Nippon Jozo Kyokaishi (1998), 93(4), 312-317
CODEN: NJKYES; ISSN: 0914-7314
PUBLISHER: Nippon Jozo Kyokai

DOCUMENT TYPE: Journal
LANGUAGE: Japanese

L6 ANSWER 30 OF 77 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:282060 CAPLUS
DOCUMENT NUMBER: 132:278247
TITLE: Hansenula polymorpha mutant for alcohol oxidase and biomass production
INVENTOR(S): Ghergheata, Elisabeta; Sasarman, Elena; Sapcaliu, Daniela; Niculescu, Stelian
PATENT ASSIGNEE(S): Institutul de Cercetari Chimice - ICECHIM, Bucuresti, Rom.
SOURCE: Rom., 8 pp.
CODEN: RUXXA3
DOCUMENT TYPE: Patent
LANGUAGE: Romanian
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
RO 112192	B1	19970630	RO 1996-237	19960212

PRIORITY APPLN. INFO.: RO 1996-237 19960212

=> FIL STNGUIDE

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L6 ANSWER 31 OF 77 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 10
AB A novel, systematic approach was used to identify amino acid residues responsible for substrate recognition in the transmembrane 10 region of the Gal2 ***galactose*** transporter of Saccharomyces cerevisiae. A mixture of approximately 25,000 distinct plasmids that encode all the combinations of 12 amino acids in transmembrane 10 that are different in Gal2 and the homologous glucose transporter Hxt2 was synthesized. ***Selection*** of ***galactose*** transport-positive clones on

galactose limited agar plates yielded 19 clones, all of which contained the Tyr-446 residue found in Gal2. 14 of the 19 clones contained Trp-455 found in Gal2, whereas the other 5 contained Cys-455, a residue not found in either Gal2 or Hxt2. When Tyr-446 of Gal2 was replaced with any of the other 19 amino acids, no ***galactose*** transport activity was observed in the resulting transporters, indicating that Tyr-446 plays an essential role in the transport of this sugar. Replacement of 2 amino acids of Hxt2 with the corresponding Tyr-446 and Trp-455 of Gal2 allowed the modified Hxt2 to transport ***galactose*** . The K-m of ***galactose*** transport for the modified transporter was 8-fold higher than that of Gal2. These results and other evidence unequivocally show that Tyr-446 is essential and Trp-455 is important for the discrimination of ***galactose*** versus glucose.

L6 ANSWER 32 OF 77 AGRICOLA DUPLICATE 11

L6 ANSWER 33 OF 77 AGRICOLA DUPLICATE 12
AB Reduction of the delta 7 double bond of sterols, a key biosynthetic step in higher eukaryotes, is lacking in lower eukaryotes like the ***yeast*** Saccharomyces cerevisiae, leading to terminal sterols with a delta 5,7-conjugated diene structure. Genes encoding two sterol reductases involved, respectively, in the reduction of sterol delta 14 and delta 24(28) double bonds have been cloned to date, but no sequence information was available on the enzyme responsible for delta 7-bond reduction. This study presents the cloning of the NADPH-sterol delta 7-reductase (delta 7-red) from Arabidopsis thaliana, based on a metabolic interference approach in ***yeast*** . The principle is the functional expression of a plant cDNA library in the ***yeast*** strain FY1679-28C tolerant to sterol modifications and the ***selection*** of clones resistant to the polyene fungicide nystatin. The toxicity of this compound is dependent on the presence of delta 5,7-unsaturated sterols in the ***yeast*** plasma membrane. One clone out of 10(5) transformants exhibits a cDNA-dependent alteration of cell sterol composition. The 1290-base pair cDNA open reading frame was isolated and sequenced. The corresponding protein presents a significant sequence similarity with ***yeast*** delta 14- and delta 24(28)-reductases and with human lamin B receptor. The coding sequence was extracted by polymerase chain reaction and inserted into a ***galactose*** -inducible ***yeast*** expression vector to optimize expression. Analysis using transformed wild type ***yeast*** or sterol altered mutants, indicated that delta 5,7-ergosta- and cholesta-sterols are efficiently reduced in vivo, regardless of the structural variations on the side chain. No reductase activity was observed toward the delta 14 or the delta 5 positions of sterols. In vivo extensive delta 7-reduction of the free and esterified pools of sterols was observed upon induction of the enzyme. Ergosterol present before induction was reduced into ergosta-5,22-dieneol, whereas ergosta-5-eneol is the new end product of sterol neosynthesis, indicating that the ***yeast*** delta 22 desaturase may be no longer active on C-7-saturated sterols. In vitro tests indicated that delta 7-reductase activity is preferentially associated with the endoplasmic reticulum membrane and confirmed the previous finding that NADPH is the reducing agent.

L6 ANSWER 34 OF 77 AGRICOLA DUPLICATE 13
AB Electrophoretic karyotyping and mitochondrial DNA restriction analysis

were used to analyze natural ***yeast*** populations from fermenting musts in El Penedes, Spain. Both analyses revealed a considerable degree of polymorphism, indicating heterogeneous natural populations. By specifically designed genetic ***selection*** protocols, strains showing potentially interesting phenotypes, such as a high tolerance to ethanol and temperature or the ability to grow and to ferment in wine-water-sugar mixtures, were isolated from these natural populations. Genetic analysis showed a strong correlation between the selected phenotypes and mitochondrial DNA polymorphisms. Karyotype analysis revealed several genetically similar ***yeast*** lineages in the natural ***yeast*** microflora, which we interpret as genetically isolated subpopulations of ***yeast*** strains with distinct genetic traits, which may correspond to specific microenvironments. Thus, molecular polymorphism analysis may be useful not only to study the geographical distribution of natural ***yeast*** strains but also to identify strains with specific phenotypic properties.

L6 ANSWER 35 OF 77 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.

AB Retroviruses and their relatives, the LTR-containing retrotransposons, integrate newly replicated cDNA copies of their genomes into the genomes of their hosts using element-encoded integrases. Although target site ***selection*** is not well understood for this general class of elements, it is becoming clear that some elements target their integration events to very specific regions of their host genomes. Evidence is accumulating that the ***yeast*** retrotransposon Ty1 behaves in this manner. Ty1 is found frequently adjacent to tRNA genes in the ***yeast*** genome and experimental evidence implicates these regions as preferred integration sites. To determine the basis for Ty1 targeting, we developed an in vivo integration assay using a Ty1 donor plasmid and a second target plasmid that could be used to measure the relative frequency of Ty1 integration into sequences cloned from various regions of the ***yeast*** genome. Targets containing genes transcribed by RNA polymerase III (Pol III) were up to several hundredfold more active as integration targets than 'cold' sequences lacking such genes. High-frequency targeting was dependent on Pol III transcription, and integration was 'region specific,' occurring exclusively upstream of the transcription start sites of these genes. Thus, Ty1 has evolved a powerful targeting mechanism, requiring Pol III transcription to integrate its DNA at very specific locations within the ***yeast*** genome.

L6 ANSWER 36 OF 77 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 14

AB We have studied the growth rate dependence of hepatitis B surface antigen (HBsAg) p24-s monomer and lipoprotein particle synthesis produced in Saccharomyces cerevisiae using ***galactose*** -limited continuous culture. The hepatitis B virus S gene, which encodes the p24-s monomer, is transcribed under the control of the GAL10p on a chimeric 2-mu-m plasmid harbored in a haploid ***yeast*** strain. Monomers autonomously form lipoprotein aggregates (particles) in vivo using only host-cell-derived components. Steady states were evaluated in a range from 0.015 h-1 to washout (0.143 h-1). Both p24-s monomer and HBsAg particle levels, at steady state, varied in an inverse linear manner with growth rate. A consistent excess of total p243 monomer to HBsAg particle, estimated at five- to tenfold by mass, was found at all dilution rates. The average copy number of the 2-mu-m plasmid (carrying LEU2 ***selection***) remained constant at 200 copies per cell from washout to 0.035 h-1.

Surprisingly, the average copy number was undetectable at the lowest dilution rate tested (0.015 h-1), even though HBsAg expression was maximal. Total p24-s monomer and HBsAg particle values ranged twofold over this dilution rate range. No differences in the trends for HBsAg expression and average copy number could be detected past the critical dilution rate where aerobic fermentation of ***galactose*** and ethanol overflow were observed. HBsAg expression in continuous culture was stable for at least 40 generations at 0.100 h-1.

L6 ANSWER 37 OF 77 AGRICOLA DUPLICATE 15

AB Pokeweed antiviral protein (PAP), a 29-kDa protein isolated from Phytolacca americana inhibits translation by catalytically removing a specific adenine residue from the 28S rRNA of eukaryotic ribosomes. PAP has potent antiviral activity against many plant and animal viruses, including human immunodeficiency virus. We describe here development of a positive ***selection*** system to isolate PAP mutants with reduced toxicity. In vitro translation in the presence or absence of microsomal membranes shows that PAP is synthesized as a precursor and undergoes at least two different proteolytic processing steps to generate mature PAP. The PAP cDNA was placed under control of the ***galactose*** -inducible GAL1 promoter and transformed into Saccharomyces cerevisiae. Induction of PAP expression was lethal to ***yeast*** . The PAP expression plasmid was mutagenized and plasmids encoding mutant PAP genes were identified by their failure to kill S. cerevisiae. A number of mutant alleles were sequenced. In one mutant, a point mutation at Glu-177 inactivated enzymatic function in vitro, suggesting that this glutamic acid residue is located at or near the catalytic site. Mutants with either point mutations near the N terminus or a nonsense mutation at residue 237 produced protein that was enzymatically active in vitro, suggesting that the toxicity of PAP is not due solely to enzymatic activity. Toxicity of PAP appears to be a multistep process that involves possibly different domains of the protein.

L6 ANSWER 38 OF 77 CAPLUS COPYRIGHT 2003 ACS

AB ***Selection*** for mutants which release glucose repression of the CYB2 gene was used to identify genes which regulate repression of mitochondrial biogenesis. We have identified two of these as the previously described GRR1/CAT80 and ROX3 genes. Mutations in these genes not only release glucose repression of CYB2 but also generally release respiration of the mutants from glucose repression. In addn., both mutants are partially defective in CYB2 expression when grown on nonfermentable carbon sources, indicating a pos. regulatory role as well. ROX3 was cloned by complementation of a glucose-inducible flocculating phenotype of an amber mutant and has been mapped as a new leftmost marker on chromosome 2. The ROX3 mutant has only a modest defect in glucose repression of GAL1 but is substantially compromised in ***galactose*** induction of GAL1 expression. This mutant also has increased SUC2 expression on nonrepressing carbon sources. We have also characterized the regulation of CYB2 in strains carrying null mutations in two other glucose repression genes, HXK2 and SSN6, and show that HXK2 is a neg. regulator of CYB2, whereas SSN6 appears to be a pos. effector of CYB2 expression.

L6 ANSWER 39 OF 77 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

AB Temperature-sensitive autolysis mutants were isolated from a sake ***yeast*** , strain (Kyokai No. 7) of Saccharomyces cerevisiae, which is

thought to be diploid. Isolation was performed by positive ***selection*** using a medium on which 2-deoxy- ***galactose*** -resistant mutants were able to grow. ***Yeast*** cells (1 times 108) were spread on a 2-deoxy- ***galactose*** plate, and about 100 colonies were isolated after incubation for 5 d at 25 degree C. About 1% of the mutants from the isolated colonies were deficient in assimilating ***galactose*** , and these included temperature-sensitive autolysis mutants at a high frequency (about 50%). In test brewing of sake, one isolate, strain gal-31, had the same fermentation activity as Kyokai No. 7, and the sake produced from gal-31 had a satisfactory quality when compared with that made from Kyokai No. 7. The resultant sake cake was stored at 37 degree C to determine the concentrations of alkaline phosphatase and S-adenosylmethionine, which were used to indicate the extent of ***yeast*** cell autolysis. The concentrations in the sake cake from strain gal-31 increased rapidly on storage at 37 degree C, supposedly because autolysis in the mutant cells in the cake was progressing. These results supported the probability that storing sake cake made from temperature-sensitive autolysis mutants at a higher non-permissive temperature has a positive effect on the ripeness.

L6 ANSWER 40 OF 77 CAPLUS COPYRIGHT 2003 ACS

AB Saccharomyces cells expressing a foreign gene that can partially substitute for an endogenous gene in pheromone metab. in addn. to the endogenous gene and a gene for a regulator of expression of the foreign are constructed. The expression of the foreign gene can be used to affect a screenable or selectable trait and therefore can be used to screen for compds. affecting the trait. Other features improve the signal-to-noise ratio of the screening/ ***selection*** system. The principle is demonstrated by the construction of autocrine Saccharomyces cerevisiae. The prepn. of a peptide display library using the pathway that presents MF.alpha.1 on the surface of the cells is demonstrated. The use of genes for human membrane proteins in the methods for screening for modulators of ATP-dependent transmembrane transporters is also described.

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DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-3.90

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L8 0 GALACTOSE(W) SELECTION AND CELLS AND TRANSFORM?

=> s galactose(w)selection and transform?
L9 3 GALACTOSE(W) SELECTION AND TRANSFORM?

=> d l9 1-3

L9 ANSWER 1 OF 3 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
AN 1999:431820 BIOSIS
DN PREV199900431820
TI Cloning, sequencing, expression and allelic sequence diversity of ERG3 (C-5 sterol desaturase gene) in Candida albicans.
AU Miyazaki, Yoshitsugu; Geber, Antonia; Miyazaki, Haruko; Falconer, Derek; Parkinson, Tanya; Hitchcock, Christopher; Grimberg, Brian; Nyswaner, Katherine; Bennett, John E. (1)
CS (1) Clinical Mycology Section, Laboratory of Clinical Investigation, National Institute of Allergy and Infectious Diseases, NIH, 10 Center Drive, Bethesda, MD, 20892 USA
SO Gene (Amsterdam), (Aug. 5, 1999) Vol. 236, No. 1, pp. 43-51. ISSN: 0378-1119.
DT Article
LA English
SL English

L9 ANSWER 2 OF 3 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
AN 1999259550 EMBASE
TI Cloning, sequencing, expression and allelic sequence diversity of ERG3 (C-5 sterol desaturase gene) in Candida albicans.
AU Miyazaki Y.; Geber A.; Miyazaki H.; Falconer D.; Parkinson T.; Hitchcock C.; Grimberg B.; Nyswaner K.; Bennett J.E.
CS J.E. Bennett, Laboratory Clinical Investigation, National Inst. Allergy/Infect. Dis., NIH, 10 Center Drive, Bethesda, MD 20892, United States. jb46y@nih.gov
SO Gene, (1999) 236/1 (43-51).
Refs: 32
ISSN: 0378-1119 CODEN: GENED6
PUI S 0378-1119(99)00263-2
CY Netherlands
DT Journal; Article
FS 004 Microbiology
LA English
SL English

L9 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2003 ACS
AN 1999:567893 CAPLUS
DN 131:282268
TI Cloning, sequencing, expression and allelic sequence diversity of ERG3 (C-5 sterol desaturase gene) in Candida albicans
AU Miyazaki, Yoshitsugu; Geber, Antonia; Miyazaki, Haruko; Falconer, Derek; Parkinson, Tanya; Hitchcock, Christopher; Grimberg, Brian; Nyswaner, Katherine; Bennett, John E.
CS Clinical Mycology Section, Laboratory of Clinical Investigation, National Institute of Allergy and Infectious Diseases, NIH, Bethesda, MD, 20892, USA
SO Gene (1999), 236(1), 43-51
CODEN: GENED6; ISSN: 0378-1119

PB Elsevier Science B.V.
DT Journal
LA English
RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> d l9 3 ab

L9 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2003 ACS
AB The C-5 sterol desaturase gene (ERG3), essential for yeast ergosterol biosynthesis, was cloned and sequenced from Candida albicans by homol. with the Saccharomyces cerevisiae ERG3. The ERG3 ORF contained 1158 bp and encoded 386 deduced amino acids. The clone was used to ***transform*** a gal1 mutant derived from the Darlington strain of C. albicans, using ***galactose*** ***selection*** . The Darlington strain is known to lack .DELTA.5,6 sterols, i.e. to have an erg3 phenotype (Howell, S.A., et al., 1990. J. Appl. Bacteriol. 69, 692-696). The ***transformant*** (CDTR1) contained six tandem integrated ERG3GAL1 repeats, had double the abundance of ERG3 transcript found in the host strain, and synthesized ergosterol, a .DELTA.5,6 sterol. The Darlington strain was noted to have an abundance of ERG3 transcript. Both ERG3 alleles in Darlington were cloned and sequenced in order to look for changes that might explain the erg3 phenotype. One allele, called Dar-2, contained a stop codon in place of tryptophan-292. The other ERG3 allele, called Dar-1, had changes in three amino acids, two of which were conserved in three fungal and one plant species. EcoRI genomic fragments contg. ERG3 from the Dar-1 allele and from B311, the wild-type strain, were inserted into the plasmid pRS316 and used to ***transform*** a Saccharomyces cerevisiae erg3, ura3 mutant using uracil selection. The 4.1 kb ERG3 fragments from the B311 and Dar-1 both contained 1.4 kb 5' and 1.5 kb 3' flanking sequences around the coding region. ***Transformants*** with ERG3 from B311 but not from Dar-1 showed restored ergosterol synthesis. One or more of these three deduced amino acids in the Dar-1 allele of ERG3 appeared crit. for function.

=> s galactokinase and selection and transform?
L10 29 GALACTOKINASE AND SELECTION AND TRANSFORM?

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L11 17 DUPLICATE REMOVE L10 (12 DUPLICATES REMOVED)

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L11 ANSWER 1 OF 17 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1
TI Genetic manipulation of the pathogenic yeast Candida parapsilosis.

L11 ANSWER 2 OF 17 CAPLUS COPYRIGHT 2003 ACS
TI A method of integrating and amplifying a plasmid-borne gene into the host chromosome with loss of plasmid antibiotic markers

L11 ANSWER 3 OF 17 CAPLUS COPYRIGHT 2003 ACS

TI A probe array for rapid detection of mutations associated with known inherited disease phenotypes in neonates

L11 ANSWER 4 OF 17 CAPLUS COPYRIGHT 2003 ACS
TI Galactose utilization as a positive ***selection*** marker in the ***transformation*** of plant cells

L11 ANSWER 5 OF 17 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 2
TI Overexpression of human UDP-glucose pyrophosphorylase rescues galactose-1-phosphate uridyltransferase-deficient yeast.

L11 ANSWER 6 OF 17 CAPLUS COPYRIGHT 2003 ACS
TI Detection of mutagenicity using nonhuman transgenic animals carrying shuttle vectors and the transgenic nonhuman animals

L11 ANSWER 7 OF 17 CAPLUS COPYRIGHT 2003 ACS
TI Chinese hamster cells containing shuttle vectors for detecting chemical mutagens

L11 ANSWER 8 OF 17 AGRICOLA
TI Repeated use of GAL1 for gene distribution in Candida albicans.

L11 ANSWER 9 OF 17 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI STRAIN ***SELECTION*** IN KLUYVEROMYCES-MARXIANUS-VAR-LACTIS FOR GALACTOSE PRODUCTION.

L11 ANSWER 10 OF 17 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 3
TI INTRODUCTION AND CONSTITUTIVE EXPRESSION OF GENE PRODUCTS IN CULTURED DROSOPHILA CELLS USING HYGROMYCIN B ***SELECTION*** .

L11 ANSWER 11 OF 17 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 4
TI ISOLATION OF MUTATIONS THAT ACT IN TRANS TO ALTER EXPRESSION FROM A YEAST HSP70 PROMOTER.

L11 ANSWER 12 OF 17 CAPLUS COPYRIGHT 2003 ACS
TI Strain ***selection*** in Kluyveromyces marxianus var. lactis for galactose production

L11 ANSWER 13 OF 17 CAPLUS COPYRIGHT 2003 ACS
TI Versatile mercury-resistant cloning and expression vectors

L11 ANSWER 14 OF 17 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 5
TI COTRANSFER AND PHENOTYPIC STABILIZATION OF SYNTENIC AND ASYNTENIC MINK GENES INTO MOUSE CELLS BY CHROMOSOME-MEDIATED GENE TRANSFER.

L11 ANSWER 15 OF 17 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 6
TI THE EXPRESSION IN YEAST OF THE ESCHERICHIA-COLI GAL-K GENE ON CYC-1 GAL-K FUSION PLASMIDS.

L11 ANSWER 16 OF 17 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 7
TI CHROMOSOME MEDIATED GENE TRANSFER RESULTS IN 2 CLASSES OF UNSTABLE

TRANSFORMANTS .

L11 ANSWER 17 OF 17 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.
TI Genetics of type II glycogenosis: Assignment of the human gene for acid .alpha.-glucosidase to chromosome 17.

=> d l11 15 ab

L11 ANSWER 15 OF 17 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 6
AB A set of gene fusions were constructed between the transcriptional and translational initiation signals of the yeast CYC1 gene, encoding iso-1-cytochrome c, and the coding sequence of the E. coli galK gene encoding ***galactokinase*** . These fusions are contained on plasmids which have both yeast and E. coli replication origins and selectable markers and can be used to ***transform*** either yeast or E. coli cells. When ***galactokinase*** -deficient (gall-) yeasts were ***transformed*** with these plasmids the resulting Gal+ tranformants were heterogeneous with respect to their ***galactokinase*** levels. The ***galactokinase*** levels in all were subject to glucose repression, characteristic of the transcriptional regulation of the CYC1 gene. The fusion points for representative plasmids were determined by DNA sequence analysis, and from these data, the differential expression of the galK gene could be explained. One fusion plasmid, YRpR1, which gave the highest level of galK expression, was characterized further. As an additional demonstration that ***galactokinase*** expression from the fusion was under CYC1 transcriptional control, a cis-dominant, CYC1-linked mutation known to drastically reduce CYC1 gene transcription was introduced into YRpR1 and shown to similarly effect galK expression. The galK mRNA produced from the fused gene of YCpR1, a centromere-containing derivative of YRpR1, consisted of the mRNA leader sequence plus the first 4 codons of the CYC1 gene, the galK coding sequence, then the remainder of the CYC1 coding sequence and the 175 nucleotide non-translated 3' sequence. As a demonstration of the usefulness of these plasmids for the ***selection*** of regulatory mutants, 2 mutants capable of greatly enhanced levels of ***galactokinase*** expression were isolated. Preliminary characterization of these mutations indicates that they likewise affect the expression of the chromosomal CYC1 gene.

=> d l11 15 ibib

L11 ANSWER 15 OF 17 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 6
ACCESSION NUMBER: 1984:274570 BIOSIS
DOCUMENT NUMBER: BA78:11050
TITLE: THE EXPRESSION IN YEAST OF THE ESCHERICHIA-COLI GAL-K GENE ON CYC-1 GAL-K FUSION PLASMIDS.
AUTHOR(S): RYMOND B C; ZITOMER R S; SCHUMPERLI D; ROSENBERG M
CORPORATE SOURCE: DEP. BIOLOGICAL SCI., STATE UNIV. N.Y., ALBANY, N.Y. 12222.
SOURCE: GENE (AMST), (1983 (RECD 1984)) 25 (2-3), 249-262.
CODEN: GENED6. ISSN: 0378-1119.
FILE SEGMENT: BA; OLD
LANGUAGE: English

=> d l11 8 ab 12 ab

L11 ANSWER 8 OF 17 AGRICOLA

AB A technique which has the potential to allow repeated use of the same selectable marker to create gene disruptions in Candida albicans has been developed. In this approach, originally described for Saccharomyces cerevisiae, the selectable marker is flanked by direct repeats. Mitotic recombination between these repeats leads to elimination of the selectable marker. A module in which the GAL1 gene is flanked by direct repeats of the bacterial CAT gene was constructed and used to disrupt one copy of the URA3 gene in a gall mutant. Gal- revertants were selected by plating on 2-deoxy-D-galactose (2DOG). The frequency of 2DOG-resistant colonies recovered was 20 times higher than that obtained with a similar construct not flanked by direct repeats. Of these, 20% had lost the GAL1 gene by recombination between the direct repeats. The GAL1 gene was used again to disrupt the remaining wild-type copy of the URA3 gene of one of these gall isolates, resulting in a stable ura3 mutant. This technique should be generally applicable to derive homozygous gene disruptions in this diploid organism.

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L11 ANSWER 12 OF 17 CAPLUS COPYRIGHT 2003 ACS

AB After treatment with Et methanesulfonate (EMS) mutants of K. marxianus var lactis altered in galactose metab. were obtained which were further improved by genetic recombination. Six types of mutants were detected. In batch culture strains with double mutations, either in ***galactokinase*** and uridyltransferase, or in ***galactokinase*** and epimerase, and which also had a galactose permease ***transformed*** lactose to galactose and galactitol. Strains with the same double mutations but no galactose permease completely hydrolyzed lactose to galactose and galactitol under continuous culture.

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=> s galactose(w)toxicity and selection
L12          1 GALACTOSE(W) TOXICITY AND SELECTION

=> d l12 1

L12  ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2003 ACS
AN   2000:133844  CAPLUS
DN   132:178178
TI   Galactose utilization as a positive   ***selection***   marker in the
     transformation of plant cells
IN   Jorsboe, Morten; Brunstedt, Janne; Jorgensen, Kirsten
PA   Danisco A/S, Den.
SO   PCT Int. Appl., 86 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 1
     PATENT NO.        KIND  DATE           APPLICATION NO.  DATE
     ---------------   ----  --------       ---------------  --------
PI   WO 2000009705      A2   20000224       WO 1999-IB1465   19990811
     WO 2000009705      A3   20000615
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             IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD,
             MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK,
             SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY,
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             CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
     CA 2339346         AA   20000224       CA 1999-2339346  19990811
     AU 9951893         A1   20000306       AU 1999-51893    19990811
     GB 2343183         A1   20000503       GB 1999-18988    19990811
     GB 2343183         B2   20010117
     EP 1105500         A2   20010613       EP 1999-936927   19990811
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO
PRAI GB 1998-17465      A    19980811
     WO 1999-IB1465     W    19990811


=> s galT and complementation
L13          36 GALT AND COMPLEMENTATION

=> s l13 and coli
L14          25 L13 AND COLI

=> duplicate remove l14
DUPLICATE PREFERENCE IS 'AGRICOLA, BIOSIS, EMBASE, CAPLUS'
KEEP DUPLICATES FROM MORE THAN ONE FILE?  Y/(N):n
PROCESSING COMPLETED FOR L14
L15          13 DUPLICATE REMOVE L14 (12 DUPLICATES REMOVED)

=> d l15 1-13 ti

L15  ANSWER 1 OF 13  CAPLUS  COPYRIGHT 2003 ACS
TI   Characterization, expression, and mutation of the Lactococcus lactis
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galPMKTE genes, involved in galactose utilization via the leloir pathway

L15 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2003 ACS
TI Endocrine disruptor screening using DNA chips of endocrine disruptor-responsive genes

L15 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2003 ACS
TI Expression of the galactokinase gene (galK) from Lactococcus lactis ssp. lactis ATCC7962 in Escherichia ***coli***

L15 ANSWER 4 OF 13 CAPLUS COPYRIGHT 2003 ACS
TI Activation of silent gal genes in the lac-gal regulon of Streptococcus thermophilus

L15 ANSWER 5 OF 13 CAPLUS COPYRIGHT 2003 ACS
TI Using plasmid-borne complementing alleles of chromosomal genes to ensure stability of cloning vectors during propagation in bacterial hosts

L15 ANSWER 6 OF 13 AGRICOLA DUPLICATE 1
TI Transcriptional regulation and evolution of lactose genes in the galactose-lactose operon of Lactococcus lactis NCDO2054.

L15 ANSWER 7 OF 13 AGRICOLA DUPLICATE 2
TI The gal genes for the Leloir pathway of Lactobacillus casei 64H.

L15 ANSWER 8 OF 13 CAPLUS COPYRIGHT 2003 ACS
TI Methods, cloning vectors and bacterial hosts for the manufacture of plasmids in high yield

L15 ANSWER 9 OF 13 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 3
TI Cloning and expression of the Klebsiella pneumoniae galactose operon.

L15 ANSWER 10 OF 13 AGRICOLA DUPLICATE 4
TI Galactose utilization in Lactobacillus helveticus: isolation and characterization of the galactokinase (galK) and galactose-1-phosphate uridyl transferase (***galT***) genes.

L15 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2003 ACS
TI Molecular cloning and physical and functional characterization of the Salmonella typhimurium and Salmonella typhi galactose utilization operons

L15 ANSWER 12 OF 13 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 5
TI GENE ORGANIZATION AND STRUCTURE OF THE STREPTOMYCES-LIVIDANS GAL OPERON.

L15 ANSWER 13 OF 13 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 6
TI THE RED PLAQUE TEST A RAPID METHOD FOR IDENTIFICATION OF EXCISION DEFECTIVE VARIANTS OF BACTERIO PHAGE LAMBDA.

=> d l15 1-13 ab

L15 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2003 ACS
AB A cluster contg. five similarly oriented genes involved in the metab. of galactose via the Leloir pathway in Lactococcus lactis subsp. cremoris

MG1363 was cloned and characterized. The order of the genes is galPMKTE, and these genes encode a galactose permease (GalP), an aldose 1-epimerase (GalM), a galactokinase (GalK), a hexose-1-phosphate uridylyltransferase (***GalT***), and a UDP-glucose 4-epimerase (GalE), resp. This genetic organization reflects the order of the metabolic conversions during galactose utilization via the Leloir pathway. The functionality of the galP, galK, ***galT*** , and galE genes was shown by ***complementation*** studies performed with both Escherichia ***coli*** and L. lactis mutants. The GalP permease is a new member of the galactoside-pentose-hexuronide family of transporters. The capacity of GalP to transport galactose was demonstrated by using galP disruption mutant strains of L. lactis MG1363. A galK deletion was constructed by replacement recombination, and the mutant strain was not able to ferment galactose. Disruption of the galE gene resulted in a deficiency in cell sepn. along with the appearance of a long-chain phenotype when cells were grown on glucose as the sole carbon source. Recovery of the wild-type phenotype for the galE mutant was obtained either by genetic ***complementation*** or by addn. of galactose to the growth medium.

L15 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2003 ACS

AB A method and kit for detecting endocrine-disrupting chems. using DNA microarrays are claimed. The method comprises prepg. a nucleic acid sample contg. mRNAs or cDNAs originating in cells, tissues, or organisms which have been brought into contact with a sample contg. the endocrine disruptor. The nucleic acid sample is hybridized with DNA microarrays having genes affected by the endocrine disruptor or DNA fragments originating in these genes have been fixed. The results obtained are then compared with the results obtained with the control sample to select the gene affected by the endocrine disruptor. Genes whose expression is altered by tri-Bu tin, 4-octaphenol, 4-nonylphenol, di-N-Bu phthalate, dichlorohexyl phthalate, octachlorostyrene, benzophenone, diethylhexyl phthalate, diethylstilbestrol (DES), and 17-.beta. estradiol (E2), were found in mice by DNA chip anal.

L15 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2003 ACS

AB The whole gal/lac operon genes of Lactococcus lactis ssp. lactis 7962 were reported as follows: galA-galM-galK- ***galT*** -lacA-lacZ-galE. The galK gene encoding a galactokinase involved in one of the Leloir pathways for galactose metab. was found to be 1,197 by in length and encodes a protein of 43,822 Da calcd. mol. mass. The deduced amino acid sequence showed over 50% homol. with GalK proteins from several other lactic acid bacteria. The galK gene was expressed in E. ***coli*** and the product was identified as a 43 kDa protein which corresponds to the estd. size from the DNA sequence. The galactokinase activity of recombinant E. ***coli*** was about 8 times greater against that of the host strain and more than 3 times higher than the induced L. lactis 7962.

L15 ANSWER 4 OF 13 CAPLUS COPYRIGHT 2003 ACS

AB Streptococcus thermophilus strain CNRZ 302 is unable to ferment galactose, neither that generated intracellularly by lactose hydrolysis nor the free sugar. Nevertheless, sequence anal. and ***complementation*** studies with Escherichia ***coli*** demonstrated that strain CNRZ 302 contained structurally intact genes for the Leloir pathway enzymes. These were organized into an operon in the order galKTE, which was preceded by a divergently transcribed regulator gene, galR, and followed by a galM gene and the lactose operon lacSZ. Results of Northern blot anal. showed that

the structural gal genes were transcribed weakly, and only in medium contg. lactose, by strain CNRZ 302. However, in a spontaneous galactose-fermenting mutant, designated NZ302G, the galKTE genes were well expressed in cells grown on lactose or galactose. In both CNRZ 302 and the Gal+ mutant NZ302G, the transcription of the galR gene was induced by growth on lactose. Disruption of galR indicated that it functioned as a transcriptional activator of both the gal and lac operons while neg. regulating its own expression. Sequence anal. of the gal promoter regions of NZ302G and nine other independently isolated Gal+ mutants of CNRZ 302 revealed mutations at three positions in the galK promoter region, which included substitutions at positions - 9 and - 15 as well as a single-base-pair insertion at position - 37 with respect to the main transcription initiation point. Galactokinase activity measurements and anal. of gusA reporter gene fusions in strains contg. the mutated promoters suggested that they were gal promoter-up mutations. We propose that poor expression of the gal genes in the galactose-neg. S. thermophilus CNRZ 302 is caused by naturally occurring mutations in the galK promoter.

L15 ANSWER 5 OF 13 CAPLUS COPYRIGHT 2003 ACS

AB A method of stabilizing plasmid vectors for stable, high copy no. replication of the vector in a microbial host using a plasmid-borne gene complementing a mutation in the host chromosomal genome to minimize plasmid loss without the use of antibiotics. The mutation in the host chromosome is a non-revertible mutation, such as a deletion, leading to either accumulation of a toxin, such as a toxic metabolite; auxotrophy, or loss of a required intracellular protein that does not lead to a secreted product. If the DNA on the plasmid is to be used in therapeutic applications or for administration to eukaryotes, the genetic material will have no functional or structural equiv. in eukaryotic cells, and will not result in prodn. of mRNA or a polypeptide that acts on any eukaryotic cell component. Any peptide produced is, desirably, not toxic to the bacterial cells. Escherichia ***coli*** hosts with deletions in the galE and ***galT*** genes involved in the synthesis of the peptidoglycan colanic acid or in the murF gene involved in peptidoglycan synthesis were constructed. Plasmids carrying the murF gene under control of the murE promoter were constructed. Plasmids carrying the murF gene in the sense orientation showed >3-fold yields of plasmid DNA in fermentors. Mice vaccinated with vectors carrying the murF gene showed antibody titers comparable to control plasmids carrying the same antigen gene. The murF gene did not hybridize to human DNA.

L15 ANSWER 6 OF 13 AGRICOLA DUPLICATE 1

AB The genetics of lactose utilization within the slow-lactose-fermenting Lactococcus lactis strain NCDO2054 was studied with respect to the organization, expression, and evolution of the lac genes. Initially the beta-galactosidase gene (lacZ) was cloned by ***complementation*** of an Escherichia ***coli*** mutant on a 7-kb HpaI fragment. Nucleotide sequence analysis of the complete fragment revealed part of a gal-lac operon, and the genes were characterized by inactivation and ***complementation*** analyses and in vitro enzyme activity measurements. The gene order is galK- ***galT*** -lacA-lacZ-galE; the gal genes encode enzymes of the Leloir pathway for galactose metabolism, and lacA encodes a galactoside acetyltransferase. The ***galT*** and galE genes of L. lactis LM0230 (a lactose plasmid-cured derivative of the fast-lactose-fermenting L. lactis C2) were highly similar at the nucleotide sequence level to their counterparts in strain NCDO2054 and,

furthermore, had the same gene order except for the presence of the intervening lacA-lacZ strain NCDO2054. Analysis of mRNA for the gal and lac genes revealed an unusual transcriptional organization for the operon, with a surprisingly large number of transcriptional units. The regulation of the lac genes was further investigated by using fusions consisting of putative promoter fragments and the promoterless beta-glucuronidase gene (gusA) from E. ***coli*** , which identified three lactose-inducible intergenic promoters in the gal-lac operon. The greater similarity of the lacA and lacZ genes to homologs in gram-negative organisms than to those of gram-positive bacteria, in contrast to the homologies of the gal genes, suggests that the genes within the gal operon of L. lactis NCDO2054 have been recently acquired. Thus, the lacA-lacZ genes appear to have engaged the promoters of the gal operon in order to direct and control their expression.

L15 ANSWER 7 OF 13 AGRICOLA DUPLICATE 2

AB The gal genes from the chromosome of Lactobacillus casei 64H were cloned by ***complementation*** of the galK2 mutation of Escherichia ***coli*** HB101. The pUC19 derivative pKBL1 in one ***complementation*** -positive clone contained a 5.8-kb DNA HindIII fragment. Detailed studies with other E. ***coli*** K-12 strains indicated that plasmid pKBL1 contains the genes coding for a galactokinase (GalK), a galactose 1-phosphate-uridyltransferase (***GalT***), and a UDP-galactose 4-epimerase (GalE). In vitro assays demonstrated that the three enzymatic activities are expressed from pKBL1. Sequence analysis revealed that pKBL1 contained two additional genes, one coding for a repressor protein of the LacI-GalR-family and the other coding for an aldose 1-epimerase (mutarotase). The gene order of the L. casei gal operon is galKETRM. Because parts of the gene for the mutarotase as well as the promoter region upstream of galK were not cloned on pKBL1, the regions flanking the HindIII fragment of pKBL1 were amplified by inverse PCR. Northern blot analysis showed that the gal genes constitute an operon that is transcribed from two promoters. The galKp promoter is inducible by galactose in the medium, while galEp constitutes a semiconstitutive promoter located in galK.

L15 ANSWER 8 OF 13 CAPLUS COPYRIGHT 2003 ACS

AB A culture system for stable and high-level prodn. of plasmids carrying cloned DNA and plasmid vectors and bacterial hosts is described. The bacterial host carries a mutation in an essential gene and the vector carries a gene that complements the mutation. This increases the stability of the plasmid without the need to use external selective pressures such as antibiotics. The genes involved are chosen to minimize problems such as the diffusion of a metabolite in large scale cultures, or possible interference with the functioning of a eukaryotic host cell, e.g. when the plasmid is used in gene therapy. The genes used play a role in cell wall biosynthesis, such as those for enzymes involved in the synthesis of cell wall tetrapeptides, are unique to bacterial systems and are without function in eukaryotic cells. One gene is the murF gene, with its temp. sensitive alleles preferred, although the the murE and murD genes could also be used. These mutations may be used in combination with mutations blocking the synthesis of colanic acid to increase the sensitivity of plasmid-free host to osmotic pressure. A method of using a simple auxotrophic marker is also described. The lysA gene, involved in lysine biosynthesis, is mutated to create a lysine auxotroph. To prevent lysine being taken up from the medium, the gene for the lysine permease, lysP, is also inactivated. A method of killing host bacteria that have

lost the plasmid using post-segregational killing mechanisms is also described. If the DNA on the plasmid is to be used in therapeutic applications or for administration to eukaryotes, the genetic material will have no functional or structural equiv. in eukaryotic cells, and will not result in prodn. of mRNA or a polypeptide that acts on any eukaryotic cell component. Any peptide produced is, desirably, not toxic to the bacterial cells.

L15 ANSWER 9 OF 13 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 3

AB The entire galactose (gal) operon of Klebsiella pneumoniae was isolated and functionally analyzed in Escherichia ***coli*** . The genes encoding galactokinase (galK), galactose-1-phosphate uridyltransferase (***galT***), and UDP-galactose-4-epimerase (galE) were mapped by ***complementation*** analysis. The gene order E-T-K was found to be identical to that of Salmonella spp. and E. ***coli*** . Analysis of the nucleotide sequence in the control region revealed significant homology with that of E. ***coli*** . Two major sites for transcriptional initiation, both mapped to a cytosyl residue, were identified by primer extension. When the operon is expressed in E. ***coli*** , the K. pneumoniae gal gene products make up about 30% of the total cellular proteins. The presence of a powerful promoter responsible for high level synthesis of the gal proteins was also demonstrated using beta-galactosidase as reporter.

L15 ANSWER 10 OF 13 AGRICOLA DUPLICATE 4

AB By complementing appropriate gal lesions in Escherichia ***coli*** K802, we were able to isolate the galactokinase (galK) and galactose-1-phosphate uridyl transferase (***galT***) genes of Lactobacillus helveticus. Tn10 transposon mutagenesis, together with in vivo ***complementation*** analysis and in vitro enzyme activity measurements, allowed us to map these two genes. The DNA sequences of the genes and the flanking regions were determined. These revealed that the two genes are organized in the order galK- ***galT*** in an operonlike structure. In an in vitro transcription-translation assay, the galK and ***galT*** gene products were identified as 44- and 53-kDa proteins, respectively, data which corresponded well with the DNA sequencing data. The deduced amino acid sequence of the galK gene product showed significant homologies to other prokaryotic and eukaryotic galactokinase sequences, whereas galactose-1-phosphate uridyl transferase did not show any sequence similarities to other known proteins. This observation, together with a comparison of known gal operon structures, suggested that the L. helveticus operon developed independently to a translational expression unit having a different gene order than that in E. ***coli*** , Streptococcus lividans, or Saccharomyces cerevisiae. DNA sequencing of the flanking regions revealed an open reading frame downstream of the galKT operon. It was tentatively identified as galM (mutarotase) on the basis of the significant amino acid sequence homology with the corresponding Streptococcus thermophilus gene.

L15 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2003 ACS

AB The chromosomally-encoded galactose-utilization (gal) operons of S. typhimurium and S. typhi were each cloned on similar 5.5-kb HindIII fragments into pBR322 and were identified by ***complementation*** of Gal- Escherichia ***coli*** strains. Restriction endonuclease analyses indicated that these Salmonellae operons share considerable

homol., but some heterogeneities in restriction sites were obsd. Subcloning and exonuclease mapping expts. showed that both operons have the same genetic organization as that established for the E. ***coli*** gal operon (i.e., 5' end, promoter, epimerase, transferase, kinase, and 3' end). Two gal operator regions (oE and oI) of S. typhimurium, identified by repressor titrn. in an E. ***coli*** superrepressor [galR(Sup)] mutant, were sequenced and found to flank the promoter region. This promoter region is identical to the -10 and -35 regions of the E. ***coli*** gal operon. Minicell studied demonstrated that the three gal structural genes of S. typhimurium encode sep. polypeptides of 39 kDa (epimerase, 337 amino acids [aa]), 41 kDa (transferase, 348 aa), and 43 kDa (kinase, 380 aa). Despite functional and organizational similarities, DNA sequence anal. revealed that the S. typhimurium gal genes show less than 70% homol. to the E. ***coli*** gal operon. Because of codon degeneracy, the deduced amino acid sequence of these polypeptides are highly conserved (>90% homol.) as compared with those of the E. ***coli*** gal enzymes. These studies have defined basic genetic parameters of the gal genes of 2 medically important Salmonella species, and findings support the hypothesized divergent evolution of E. ***coli*** and Salmonella spp. from a common ancestral parent bacterium.

L15 ANSWER 12 OF 13 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 5

AB We present the gene organization and DNA sequence of the Streptomyces lividans galactose utilization genes. ***Complementation*** of Escherichia ***coli*** galE, ***galT*** , or galK mutants and DNA sequence analysis were used to demonstrate that the galactose utilization genes are organized within an operon with the gene order ***galT*** , galE, and galK. Comparison of the inferred protein sequences for the S. lividans gal gene product to the corresponding E. ***coli*** and Saccharomyces carlbergensis sequences identified regions of structural homology within each of the galactose utilization enzymes. Finally, we discuss a potential relationship between the gene organization of the operon and the functional roles of the gal enzymes in cellular metabolism.

L15 ANSWER 13 OF 13 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 6

AB A simple and rapid plaque test for isolation, characterization and mapping of integration and excision-defective mutants of bacteriophage .lambda. was developed. Mutants are recognized by their inability to promote the int and xis dependent excision of a cryptic prophage inserted within the ***galT*** gene of Escherichia ***coli*** . Methods for ***complementation*** of int and xis mutants and methods for isolation and analysis of transducing phage are presented.

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=> d l15 1-13 ibib ab

L15 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2003:85947 CAPLUS

TITLE: Characterization, expression, and mutation of the Lactococcus lactis galPMKTE genes, involved in galactose utilization via the leloir pathway

AUTHOR(S): Grossiord, Benoit P.; Luesink, Evert J.; Vaughan, Elaine E.; Arnaud, Alain; de Vos, Willem M.
CORPORATE SOURCE: NIZO Food Research, Wageningen University, Wageningen, CT, 6703, USA
SOURCE: Journal of Bacteriology (2003), 185(3), 870-878
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DOCUMENT TYPE: Journal
LANGUAGE: English

AB A cluster contg. five similarly oriented genes involved in the metab. of galactose via the Leloir pathway in Lactococcus lactis subsp. cremoris MG1363 was cloned and characterized. The order of the genes is galPMKTE, and these genes encode a galactose permease (GalP), an aldose 1-epimerase (GalM), a galactokinase (GalK), a hexose-1-phosphate uridylyltransferase (***GalT***), and a UDP-glucose 4-epimerase (GalE), resp. This genetic organization reflects the order of the metabolic conversions during galactose utilization via the Leloir pathway. The functionality of the galP, galK, ***galT*** , and galE genes was shown by ***complementation*** studies performed with both Escherichia ***coli*** and L. lactis mutants. The GalP permease is a new member of the galactoside-pentose-hexuronide family of transporters. The capacity of GalP to transport galactose was demonstrated by using galP disruption mutant strains of L. lactis MG1363. A galK deletion was constructed by replacement recombination, and the mutant strain was not able to ferment galactose. Disruption of the galE gene resulted in a deficiency in cell sepn. along with the appearance of a long-chain phenotype when cells were grown on glucose as the sole carbon source. Recovery of the wild-type phenotype for the galE mutant was obtained either by genetic ***complementation*** or by addn. of galactose to the growth medium.

L15 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:937303 CAPLUS
DOCUMENT NUMBER: 138:20443
TITLE: Endocrine disruptor screening using DNA chips of endocrine disruptor-responsive genes
INVENTOR(S): Kondo, Akihiro; Takeda, Takeshi; Mizutani, Shigetoshi; Tsujimoto, Yoshimasa; Takashima, Ryokichi; Enoki, Yuki; Kato, Ikunoshin
PATENT ASSIGNEE(S): Takara Bio Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 386 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002355079	A2	20021210	JP 2002-69354	20020313

PRIORITY APPLN. INFO.: JP 2001-73183 A 20010314
JP 2001-74993 A 20010315
JP 2001-102519 A 20010330

AB A method and kit for detecting endocrine-disrupting chems. using DNA microarrays are claimed. The method comprises prepg. a nucleic acid sample contg. mRNAs or cDNAs originating in cells, tissues, or organisms which have been brought into contact with a sample contg. the endocrine disruptor. The nucleic acid sample is hybridized with DNA microarrays

having genes affected by the endocrine disruptor or DNA fragments originating in these genes have been fixed. The results obtained are then compared with the results obtained with the control sample to select the gene affected by the endocrine disruptor. Genes whose expression is altered by tri-Bu tin, 4-octaphenol, 4-nonylphenol, di-N-Bu phthalate, dichlorohexyl phthalate, octachlorostyrene, benzophenone, diethylhexyl phthalate, diethylstilbestrol (DES), and 17-.beta. estradiol (E2), were found in mice by DNA chip anal.

L15 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:586313 CAPLUS
TITLE: Expression of the galactokinase gene (galK) from Lactococcus lactis ssp. lactis ATCC7962 in Escherichia ***coli***
AUTHOR(S): Choi, Jae Yeon; Lee, Jong-Hoon; Lee, Jung Min; Kim, Jeong Hwan; Chang, Hae Choon; Chung, Dae Kyun; Cho, Somi Kim; Lee, Hyong Joo
CORPORATE SOURCE: Department of Food Science and Biotechnology, Kyonggi University, Suwon, 442-760, S. Korea
SOURCE: Journal of Microbiology (Seoul, Republic of Korea) (2002), 40(2), 156-160
CODEN: JOMIFG; ISSN: 1225-8873
PUBLISHER: Microbiological Society of Korea
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The whole gal/lac operon genes of Lactococcus lactis ssp. lactis 7962 were reported as follows: galA-galM-galK- ***galT*** -lacA-lacZ-galE. The galK gene encoding a galactokinase involved in one of the Leloir pathways for galactose metab. was found to be 1,197 by in length and encodes a protein of 43,822 Da calcd. mol. mass. The deduced amino acid sequence showed over 50% homol. with GalK proteins from several other lactic acid bacteria. The galK gene was expressed in E. ***coli*** and the product was identified as a 43 kDa protein which corresponds to the estd. size from the DNA sequence. The galactokinase activity of recombinant E. ***coli*** was about 8 times greater against that of the host strain and more than 3 times higher than the induced L. lactis 7962.
REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 4 OF 13 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:105524 CAPLUS
DOCUMENT NUMBER: 135:191175
TITLE: Activation of silent gal genes in the lac-gal regulon of Streptococcus thermophilus
AUTHOR(S): Vaughan, Elaine E.; Van den Bogaard, Patrick T. C.; Catzeddu, Pasquale; Kuipers, Oscar P.; De Vos, Willem M.
CORPORATE SOURCE: Wageningen Centre for Food Sciences, NIZO Food Research, Ede, 6718 ZB, Neth.
SOURCE: Journal of Bacteriology (2001), 183(4), 1184-1194
CODEN: JOBAAY; ISSN: 0021-9193
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Streptococcus thermophilus strain CNRZ 302 is unable to ferment galactose, neither that generated intracellularly by lactose hydrolysis nor the free

sugar. Nevertheless, sequence anal. and ***complementation*** studies with Escherichia ***coli*** demonstrated that strain CNRZ 302 contained structurally intact genes for the Leloir pathway enzymes. These were organized into an operon in the order galKTE, which was preceded by a divergently transcribed regulator gene, galR, and followed by a galM gene and the lactose operon lacSZ. Results of Northern blot anal. showed that the structural gal genes were transcribed weakly, and only in medium contg. lactose, by strain CNRZ 302. However, in a spontaneous galactose-fermenting mutant, designated NZ302G, the galKTE genes were well expressed in cells grown on lactose or galactose. In both CNRZ 302 and the Gal+ mutant NZ302G, the transcription of the galR gene was induced by growth on lactose. Disruption of galR indicated that it functioned as a transcriptional activator of both the gal and lac operons while neg. regulating its own expression. Sequence anal. of the gal promoter regions of NZ302G and nine other independently isolated Gal+ mutants of CNRZ 302 revealed mutations at three positions in the galK promoter region, which included substitutions at positions - 9 and - 15 as well as a single-base-pair insertion at position - 37 with respect to the main transcription initiation point. Galactokinase activity measurements and anal. of gusA reporter gene fusions in strains contg. the mutated promoters suggested that they were gal promoter-up mutations. We propose that poor expression of the gal genes in the galactose-neg. S. thermophilus CNRZ 302 is caused by naturally occurring mutations in the galK promoter.

REFERENCE COUNT: 58 THERE ARE 58 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 5 OF 13 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:439288 CAPLUS
DOCUMENT NUMBER: 131:69279
TITLE: Using plasmid-borne complementing alleles of chromosomal genes to ensure stability of cloning vectors during propagation in bacterial hosts
INVENTOR(S): Morsey, Mohamad A.
PATENT ASSIGNEE(S): Biostar Inc., Can.
SOURCE: U.S., 27 pp., Cont.-in-part of U.S. Ser. No. 564,973.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5922583	A	19990713	US 1996-732612	19961016
CA 2232234	AA	19970424	CA 1996-2232234	19961017
PRIORITY APPLN. INFO.:			US 1995-548059	19951017
			US 1995-564973	19951130

AB A method of stabilizing plasmid vectors for stable, high copy no. replication of the vector in a microbial host using a plasmid-borne gene complementing a mutation in the host chromosomal genome to minimize plasmid loss without the use of antibiotics. The mutation in the host chromosome is a non-revertible mutation, such as a deletion, leading to either accumulation of a toxin, such as a toxic metabolite; auxotrophy, or loss of a required intracellular protein that does not lead to a secreted product. If the DNA on the plasmid is to be used in therapeutic applications or for administration to eukaryotes, the genetic material

will have no functional or structural equiv. in eukaryotic cells, and will not result in prodn. of mRNA or a polypeptide that acts on any eukaryotic cell component. Any peptide produced is, desirably, not toxic to the bacterial cells. Escherichia ***coli*** hosts with deletions in the galE and ***galT*** genes involved in the synthesis of the peptidoglycan colanic acid or in the murF gene involved in peptidoglycan synthesis were constructed. Plasmids carrying the murF gene under control of the murE promoter were constructed. Plasmids carrying the murF gene in the sense orientation showed >3-fold yields of plasmid DNA in fermentors. Mice vaccinated with vectors carrying the murF gene showed antibody titers comparable to control plasmids carrying the same antigen gene. The murF gene did not hybridize to human DNA.

REFERENCE COUNT: 55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L15 ANSWER 6 OF 13 AGRICOLA DUPLICATE 1

ACCESSION NUMBER: 1999:31688 AGRICOLA
DOCUMENT NUMBER: IND21979503
TITLE: Transcriptional regulation and evolution of lactose genes in the galactose-lactose operon of Lactococcus lactis NCDO2054.
AUTHOR(S): Vaughan, E.E.; Pridmore, R.D.; Mollet, B.
CORPORATE SOURCE: Nestle Research Center, Lausanne, Switzerland.
AVAILABILITY: DNAL (448.3 J82)
SOURCE: Journal of bacteriology, Sept 1998. Vol. 180, No. 18. p. 4893-4902
Publisher: Washington, D.C. : American Society for Microbiology.
CODEN: JOBAAY; ISSN: 0021-9193
NOTE: Includes references
PUB. COUNTRY: District of Columbia; United States
DOCUMENT TYPE: Article
FILE SEGMENT: U.S. Imprints not USDA, Experiment or Extension
LANGUAGE: English

AB The genetics of lactose utilization within the slow-lactose-fermenting Lactococcus lactis strain NCDO2054 was studied with respect to the organization, expression, and evolution of the lac genes. Initially the beta-galactosidase gene (lacZ) was cloned by ***complementation*** of an Escherichia ***coli*** mutant on a 7-kb HpaI fragment. Nucleotide sequence analysis of the complete fragment revealed part of a gal-lac operon, and the genes were characterized by inactivation and ***complementation*** analyses and in vitro enzyme activity measurements. The gene order is galK- ***galT*** -lacA-lacZ-galE; the gal genes encode enzymes of the Leloir pathway for galactose metabolism, and lacA encodes a galactoside acetyltransferase. The ***galT*** and galE genes of L. lactis LM0230 (a lactose plasmid-cured derivative of the fast-lactose-fermenting L. lactis C2) were highly similar at the nucleotide sequence level to their counterparts in strain NCDO2054 and, furthermore, had the same gene order except for the presence of the intervening lacA-lacZ strain NCDO2054. Analysis of mRNA for the gal and lac genes revealed an unusual transcriptional organization for the operon, with a surprisingly large number of transcriptional units. The regulation of the lac genes was further investigated by using fusions consisting of putative promoter fragments and the promoterless beta-glucuronidase gene (gusA) from E. ***coli*** , which identified three lactose-inducible intergenic promoters in the gal-lac operon. The greater similarity of the lacA and lacZ genes to homologs in gram-negative organisms than to those

of gram-positive bacteria, in contrast to the homologies of the gal genes, suggests that the genes within the gal operon of L. lactis NCDO2054 have been recently acquired. Thus, the lacA-lacZ genes appear to have engaged the promoters of the gal operon in order to direct and control their expression.

L15 ANSWER 7 OF 13 AGRICOLA DUPLICATE 2
ACCESSION NUMBER: 1999:9102 AGRICOLA
DOCUMENT NUMBER: IND21961524
TITLE: The gal genes for the Leloir pathway of Lactobacillus casei 64H.
AUTHOR(S): Bettenbrock, K.
CORPORATE SOURCE: Universitat Osnabruck, Osnabruck, Germany.
AVAILABILITY: DNAL (448.3 Ap5)
SOURCE: Applied and environmental microbiology, June 1998. Vol. 64, No. 6. p. 2013-2019
Publisher: Washington : American Society for Microbiology
CODEN: AEMIDF; ISSN: 0099-2240
NOTE: Includes references
PUB. COUNTRY: District of Columbia; United States
DOCUMENT TYPE: Article
FILE SEGMENT: U.S. Imprints not USDA, Experiment or Extension
LANGUAGE: English
AB The gal genes from the chromosome of Lactobacillus casei 64H were cloned by ***complementation*** of the galK2 mutation of Escherichia ***coli*** HB101. The pUC19 derivative pKBL1 in one ***complementation*** -positive clone contained a 5.8-kb DNA HindIII fragment. Detailed studies with other E. ***coli*** K-12 strains indicated that plasmid pKBL1 contains the genes coding for a galactokinase (GalK), a galactose 1-phosphate-uridyltransferase (***GalT***), and a UDP-galactose 4-epimerase (GalE). In vitro assays demonstrated that the three enzymatic activities are expressed from pKBL1. Sequence analysis revealed that pKBL1 contained two additional genes, one coding for a repressor protein of the LacI-GalR-family and the other coding for an aldose 1-epimerase (mutarotase). The gene order of the L. casei gal operon is galKETRM. Because parts of the gene for the mutarotase as well as the promoter region upstream of galK were not cloned on pKBL1, the regions flanking the HindIII fragment of pKBL1 were amplified by inverse PCR. Northern blot analysis showed that the gal genes constitute an operon that is transcribed from two promoters. The galKp promoter is inducible by galactose in the medium, while galEp constitutes a semiconstitutive promoter located in galK.

L15 ANSWER 8 OF 13 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:384249 CAPLUS
DOCUMENT NUMBER: 127:1630
TITLE: Methods, cloning vectors and bacterial hosts for the manufacture of plasmids in high yield
INVENTOR(S): Morsey, Mohamad A.
PATENT ASSIGNEE(S): Biostar, Inc., Can.
SOURCE: PCT Int. Appl., 45 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9714805	A2	19970424	WO 1996-CA693	19961017
WO 9714805	A3	19970612		
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI				
CA 2232234	AA	19970424	CA 1996-2232234	19961017
AU 9672088	A1	19970507	AU 1996-72088	19961017
EP 856059	A1	19980805	EP 1996-933294	19961017
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 11513562	T2	19991124	JP 1996-515377	19961017
PRIORITY APPLN. INFO.:			US 1995-548059	19951017
			US 1995-564973	19951130
			WO 1996-CA693	19961017

AB A culture system for stable and high-level prodn. of plasmids carrying cloned DNA and plasmid vectors and bacterial hosts is described. The bacterial host carries a mutation in an essential gene and the vector carries a gene that complements the mutation. This increases the stability of the plasmid without the need to use external selective pressures such as antibiotics. The genes involved are chosen to minimize problems such as the diffusion of a metabolite in large scale cultures, or possible interference with the functioning of a eukaryotic host cell, e.g. when the plasmid is used in gene therapy. The genes used play a role in cell wall biosynthesis, such as those for enzymes involved in the synthesis of cell wall tetrapeptides, are unique to bacterial systems and are without function in eukaryotic cells. One gene is the murF gene, with its temp. sensitive alleles preferred, although the the murE and murD genes could also be used. These mutations may be used in combination with mutations blocking the synthesis of colanic acid to increase the sensitivity of plasmid-free host to osmotic pressure. A method of using a simple auxotrophic marker is also described. The lysA gene, involved in lysine biosynthesis, is mutated to create a lysine auxotroph. To prevent lysine being taken up from the medium, the gene for the lysine permease, lysP, is also inactivated. A method of killing host bacteria that have lost the plasmid using post-segregational killing mechanisms is also described. If the DNA on the plasmid is to be used in therapeutic applications or for administration to eukaryotes, the genetic material will have no functional or structural equiv. in eukaryotic cells, and will not result in prodn. of mRNA or a polypeptide that acts on any eukaryotic cell component. Any peptide produced is, desirably, not toxic to the bacterial cells.

L15 ANSWER 9 OF 13 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 3

ACCESSION NUMBER: 1993:117368 BIOSIS
DOCUMENT NUMBER: PREV199395061468
TITLE: Cloning and expression of the Klebsiella pneumoniae galactose operon.
AUTHOR(S): Peng, Hwei-Ling; Fu, Tzu-Fun; Liu, Sou-Feng; Chang, Hwan-You (1)

CORPORATE SOURCE: (1) Dep. Mol. Cell. Biol., Chang-Gung Med. Coll., 259 Wenhua 1 Rd., Kwei San 33332 Taiwan
SOURCE: Journal of Biochemistry (Tokyo), (1992) Vol. 112, No. 5, pp. 604-608.
ISSN: 0021-924X.
DOCUMENT TYPE: Article
LANGUAGE: English

AB The entire galactose (gal) operon of Klebsiella pneumoniae was isolated and functionally analyzed in Escherichia ***coli*** . The genes encoding galactokinase (galK), galactose-1-phosphate uridyltransferase (***galT***), and UDP-galactose-4-epimerase (galE) were mapped by ***complementation*** analysis. The gene order E-T-K was found to be identical to that of Salmonella spp. and E. ***coli*** . Analysis of the nucleotide sequence in the control region revealed significant homology with that of E. ***coli*** . Two major sites for transcriptional initiation, both mapped to a cytosyl residue, were identified by primer extension. When the operon is expressed in E. ***coli*** , the K. pneumoniae gal gene products make up about 30% of the total cellular proteins. The presence of a powerful promoter responsible for high level synthesis of the gal proteins was also demonstrated using beta-galactosidase as reporter.

L15 ANSWER 10 OF 13 AGRICOLA DUPLICATE 4
ACCESSION NUMBER: 91:73040 AGRICOLA
DOCUMENT NUMBER: IND91039323
TITLE: Galactose utilization in Lactobacillus helveticus: isolation and characterization of the galactokinase (galK) and galactose-1-phosphate uridyl transferase (***galT***) genes.
AUTHOR(S): Mollet, B.; Pilloud, N.
CORPORATE SOURCE: Nestle Ltd., Lausanne, Switzerland
AVAILABILITY: DNAL (448.3 J82)
SOURCE: Journal of bacteriology, July 1991. Vol. 173, No. 14. p. 4464-4473
Publisher: Washington, D.C. : American Society for Microbiology.
CODEN: JOBAAY; ISSN: 0021-9193
NOTE: Includes references.
DOCUMENT TYPE: Article
FILE SEGMENT: U.S. Imprints not USDA, Experiment or Extension
LANGUAGE: English

AB By complementing appropriate gal lesions in Escherichia ***coli*** K802, we were able to isolate the galactokinase (galK) and galactose-1-phosphate uridyl transferase (***galT***) genes of Lactobacillus helveticus. Tn10 transposon mutagenesis, together with in vivo ***complementation*** analysis and in vitro enzyme activity measurements, allowed us to map these two genes. The DNA sequences of the genes and the flanking regions were determined. These revealed that the two genes are organized in the order galK- ***galT*** in an operonlike structure. In an in vitro transcription-translation assay, the galK and ***galT*** gene products were identified as 44- and 53-kDa proteins, respectively, data which corresponded well with the DNA sequencing data. The deduced amino acid sequence of the galK gene product showed significant homologies to other prokaryotic and eukaryotic galactokinase sequences, whereas galactose-1-phosphate uridyl transferase did not show any sequence similarities to other known proteins. This observation,

together with a comparison of known gal operon structures, suggested that the L. helveticus operon developed independently to a translational expression unit having a different gene order than that in E. ***coli*** , Streptococcus lividans, or Saccharomyces cerevisiae. DNA sequencing of the flanking regions revealed an open reading frame downstream of the galKT operon. It was tentatively identified as galM (mutarotase) on the basis of the significant amino acid sequence homology with the corresponding Streptococcus thermophilus gene.

L15 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1991:1307 CAPLUS
DOCUMENT NUMBER: 114:1307
TITLE: Molecular cloning and physical and functional characterization of the Salmonella typhimurium and Salmonella typhi galactose utilization operons
AUTHOR(S): Houng, Huo Shu H.; Kopecko, Dennis J.; Baron, Louis S.
CORPORATE SOURCE: Dep. Bact. Immunol., Walter Reed Army Inst. Res., Washington, DC, 20307, USA
SOURCE: Journal of Bacteriology (1990), 172(8), 4392-8
CODEN: JOBAAY; ISSN: 0021-9193
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The chromosomally-encoded galactose-utilization (gal) operons of S. typhimurium and S. typhi were each cloned on similar 5.5-kb HindIII fragments into pBR322 and were identified by ***complementation*** of Gal- Escherichia ***coli*** strains. Restriction endonuclease analyses indicated that these Salmonellae operons share considerable homol., but some heterogeneities in restriction sites were obsd. Subcloning and exonuclease mapping expts. showed that both operons have the same genetic organization as that established for the E. ***coli*** gal operon (i.e., 5' end, promoter, epimerase, transferase, kinase, and 3' end). Two gal operator regions (oE and oI) of S. typhimurium, identified by repressor titrn. in an E. ***coli*** superrepressor [galR(Sup)] mutant, were sequenced and found to flank the promoter region. This promoter region is identical to the -10 and -35 regions of the E. ***coli*** gal operon. Minicell studied demonstrated that the three gal structural genes of S. typhimurium encode sep. polypeptides of 39 kDa (epimerase, 337 amino acids [aa]), 41 kDa (transferase, 348 aa), and 43 kDa (kinase, 380 aa). Despite functional and organizational similarities, DNA sequence anal. revealed that the S. typhimurium gal genes show less than 70% homol. to the E. ***coli*** gal operon. Because of codon degeneracy, the deduced amino acid sequence of these polypeptides are highly conserved (>90% homol.) as compared with those of the E. ***coli*** gal enzymes. These studies have defined basic genetic parameters of the gal genes of 2 medically important Salmonella species, and findings support the hypothesized divergent evolution of E. ***coli*** and Salmonella spp. from a common ancestral parent bacterium.

L15 ANSWER 12 OF 13 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 5
ACCESSION NUMBER: 1988:132964 BIOSIS
DOCUMENT NUMBER: BA85:67791
TITLE: GENE ORGANIZATION AND STRUCTURE OF THE STREPTOMYCES-LIVIDANS GAL OPERON.
AUTHOR(S): ADAMS C W; FORNWALD J A; SCHMIDT F J; ROSENBERG M; BRAWNER

M E
CORPORATE SOURCE: MOL. GENET. DEP., SMITHKLINE AND FRENCH LAB., KING OF PRUSSIA, PA. 19406-0939.
SOURCE: J BACTERIOL, (1988) 170 (1), 203-212.
CODEN: JOBAAY. ISSN: 0021-9193.
FILE SEGMENT: BA; OLD
LANGUAGE: English
AB We present the gene organization and DNA sequence of the Streptomyces lividans galactose utilization genes. ***Complementation*** of Escherichia ***coli*** galE, ***galT*** , or galK mutants and DNA sequence analysis were used to demonstrate that the galactose utilization genes are organized within an operon with the gene order ***galT*** , galE, and galK. Comparison of the inferred protein sequences for the S. lividans gal gene product to the corresponding E. ***coli*** and Saccharomyces carlbergensis sequences identified regions of structural homology within each of the galactose utilization enzymes. Finally, we discuss a potential relationship between the gene organization of the operon and the functional roles of the gal enzymes in cellular metabolism.

L15 ANSWER 13 OF 13 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 6
ACCESSION NUMBER: 1976:218551 BIOSIS
DOCUMENT NUMBER: BA62:48551
TITLE: THE RED PLAQUE TEST A RAPID METHOD FOR IDENTIFICATION OF EXCISION DEFECTIVE VARIANTS OF BACTERIO PHAGE LAMBDA.
AUTHOR(S): ENQUIST L W; WEISBERG R A
SOURCE: VIROLOGY, (1976) 72 (1), 147-153.
CODEN: VIRLAX. ISSN: 0042-6822.
FILE SEGMENT: BA; OLD
LANGUAGE: Unavailable
AB A simple and rapid plaque test for isolation, characterization and mapping of integration and excision-defective mutants of bacteriophage .lambda. was developed. Mutants are recognized by their inability to promote the int and xis dependent excision of a cryptic prophage inserted within the ***galT*** gene of Escherichia ***coli*** . Methods for ***complementation*** of int and xis mutants and methods for isolation and analysis of transducing phage are presented.

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